# P.S

# THE PREVENTIVE MAINTENANCE MONTHLY

Issue 24
Series 1954

# DURING INSPECTIONS YOU'LL BE RATED ON . . .

# SERIOUS MATTERS

## (AND NOT EQUIPMENT "SHINE")

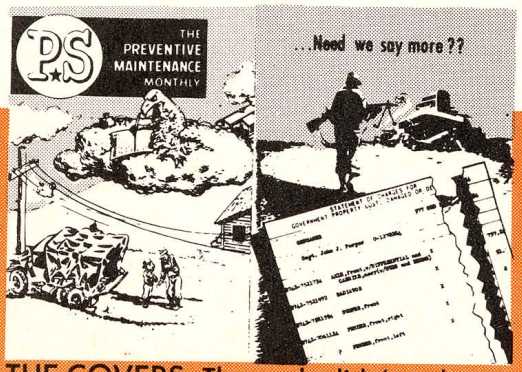
*Dear Half-Mast,*

*Again and again the boys cry for a standard of inspection. They say they don't care a damn what standards are set, if only the battalion, group, post commanders and Ordnance inspectors will agree on what is and what is not meant by the regulations.*

*They also want a method of telling the difference and showing the score between a minor deficiency—such as a loose or missing glove-compartment latch—and a major deficiency—such as being seriously low on oil or water. Or any other real deficiency like loose steering parts or leaky brake lines—the sort of deficiency which is a real hazard to the continued safe operation of the vehicle.*

*As of now, on most inspections, all gigs count alike, and the guy who never neglects the essentials looks just as bad on small junk as the meathead who shines like crazy but misses the vital parts.*

*SFC D. R. H.*




THE COVERS: The eagle didn't make a sound. He just pulled out his red ink and drew a line. The Joe who does the right kind of maintenance on his vehicle and weapon will hear the big bird scream—loud and long.

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Issue No. 24 1954 Series

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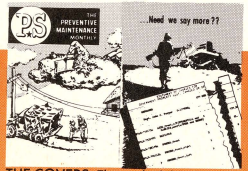


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The printing of PS Magazine, the PREVENTIVE MAINTENANCE MONTHLY, is approved by the Director, Bureau of the Budget (4 Aug 53), and is distributed as follows: ACTIVE ARMY: Tec Svc, DA (5) except Eng (75); Ord (275); Admin & Tec Svc Bd (5); AFF (10); OS Maj Comd (5); OS Base Comd (3); MDW (5); Armies (50); Corps (3); Div (2) except Armd (100); Tng (50), Brig (3); Regt (3); Bn (4); Co (15) except Cml Mod, QM (8); Ft & Cp (5); Armament (25), Gen & Br Svc Sch (5) except Ord (50); Eng Sch (100); PMST ROTC Units (3) except Ord (25); Depots (5); Army Hosp (5); USA Hosp (3); RTC (100); POE (3). OS Sup Agencies (2); PG (5); Arsenals (25); DR (25); Fruit Main Sta (3); Engr Div (2); Engr Dist (20); NG: Special. USAR: Special. Unless otherwise noted, distribution applies to CONUS and overseas. For explanation of abbreviations used see SR 320-50-1.



Dear SFC D. R. H.,

No two ways about it---the method of telling a big flub from a little flub has been a thorn in military men's sides ever since Julius Caesar checked spears for both sharpness and polish.

Julius was a successful campaigner, though, so he must have come up with ideas for dockin' a guy more for a dull edge. Our Army has something like that, too.

There's a revision out for SR 750-105-10 dated 14 April 1954 (on Ordnance materiel) which tells you what's what and why. It goes a long way to clear up the difference between a major and a minor deficiency as now outlined in FM 9-10. Here are questions to ask yourself if you're looking for those major deficiencies:

Does it make the item unsafe to operate?
Is it the reason the item fails to operate?
Will it cause unnecessary damage when the item is operated?
Will it cause the equipment to function improperly so it can't do the job it's designed for? (Bad adjustment of fire-control equipment, bent sights, etc.)

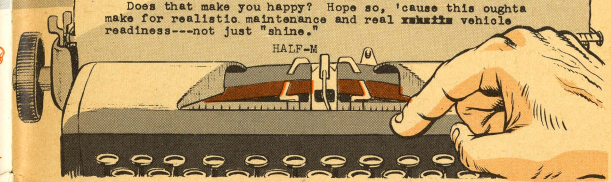
If you have a "yes" to any of these questions, you'd better do something about it or you'll get gigged.

Here's how you can look for a minor deficiency. It's any other deficiency that won't risk safe operation or cause your equipment to break down sooner. Like was said before, the major ones will gig you, but the minor ones will be listed on the inspection report. You gotta fix 'em, too.

This should take a lot of doubt and personal opinion out of inspection ratings. This is not a new system, but merely elaborates the basic policy prescribed in FM 9-10.

Does that make you happy? Hope so, 'cause this oughta make for realistic maintenance and real vehicle readiness---not just "shine."

HALF-M



PS Magazine wants your ideas and contributions, and is glad to answer your questions. Just write to: **Editor, PS Magazine, Aberdeen Proving Ground, Maryland.**

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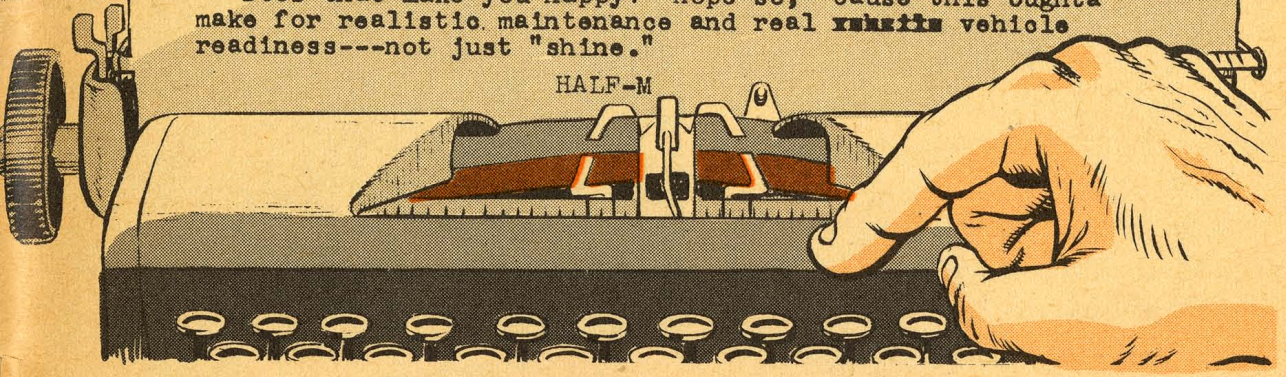



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*Keep your numbers in this Little Brown Book and you'll—*

# ALWAYS HAVE A SURE THING

Everybody's heard about the "little black book" filled with big deal info, but we're gonna tell you about the little brown one.

Both do the same thing for you, but they cover different types of equipment —and performance.

You know how it is with the little black book. There's at least one guy in every outfit who tells you he has **the** book—he has every phone number you ever heard of, complete with past performance, capacity, limitations, and favorite brand (of smokes, that is).

Same way with this here new gun book (Weapon Record Book). It's fresh off the presses and aimed at giving you the right clue any time you want it—what kind of shape she's in.

The way it does this for you is new—but simple. The secret is in having not **one** — but **two** books. These two are stapled together so's you can treat **both** as **one** book. How d'ya tell 'em apart? Part I and Part II, naturally.

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SUMMARY SHEET
WEAPON COMPONENT PERFORMANCE

| COMPONENT | SERIAL NUMBER | MODEL NUMBER | MANUFACTURER | YEAR MFR'D | CARRIAGE OR MOUNT INSTALLED DATE | INSTALLED ROUNDS | REMOVED DATE | REMOVED ROUNDS |
|---|---|---|---|---|---|---|---|---|
| Tube | 2294 | M1 | Wvt A | 1951 | JAN 1952 | 0 | SEPT 1952 | 1804 |
| Recoil Mech. | 128 | M3 | R.I.A. | 1951 | JAN 1952 | 0 | | |
| Breech Ring | 2917 | M1 | Wvt A | 1951 | JAN 1952 | 0 | | |
| Tube | 2293 | M1 | Wvt A | 1951 | SEPT 1952 | 1804 | MAY 1953 | 3554 |
| | | | | | | | | |
| | | | | | | | | |



# PART 1
# CARRIAGE OR MOUNT

Let's take a look at the **cover.** First thing to remember is that Part I stays with the carriage or mount forever. Dope on filling it out is inside the cover. You'll need to make only one copy of the inside pages in Part I, 'cause this stays with the carriage or mount until it is condemned or disposed of . . .

## 1 SUMMARY SHEET

The first form you'll come to is the Summary Sheet. Keep it complete and up-to-date and it'll tell you the whole story of the weapon at any time. One look and you'll know how many tubes have been used, the age of major component parts—questions like that.

# PART 1

# CARRIAGE OR MOUNT

**WEAPON RECORD BOOK**
*(SR 750-115-20)*

**PART I - MAJOR ITEM COMPLETE RECORD**

TYPE OF WEAPON: 155-MM HOW
MODEL NUMBER: M1
CARRIAGE OR MOUNT SERIAL NUMBER: 2187
MANUFACTURER: Wvt. A
YEAR: 1952

*ART OF THE WEAPON RECORD BOOK*
*REMAIN WITH THE CARRIAGE OR*
*MOUNT AT ALL TIMES*

A FORM 1 SEP 54 9-13 REPLACES OO FORM 5825, WHICH MAY BE USED.

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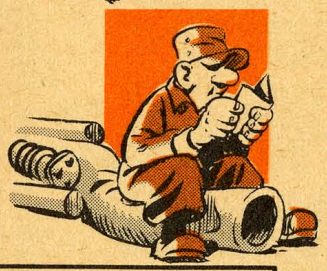

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**WEAPON COMPONENT PERFORMANCE**

| COMPONENT | SERIAL NUMBER | MODEL NUMBER | MANUFACTURER | YEAR MFR'D | CARRIAGE OR MOUNT | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | INSTALLED | | REMOVED | |
| | | | | | DATE | ROUNDS | DATE | ROUNDS |
| Tube | 2294 | M1 | Wvt A | 1951 | Jan 1952 | 0 | SEPT 1952 | 1804 |
| Recoil Mech. | 128 | M3 | R.I.A. | 1951 | Jan 1952 | 0 | | |
| Breech Ring | 2917 | M1 | Wvt A | 1951 | Jan 1952 | 0 | | |
| Tube | 2293 | M1 | Wvt A | 1951 | Sept 1952 | 1804 | May 1953 | 3554 |
| | | | | | | | | |
| | | | | | | | | |

# 23 ASSIGNMENTS AND SERVICE

## RECORD OF ASSIGNMENTS

| DATE | BATTERY | UNIT |
|---|---|---|
| Feb 1952 | "B" | 908 FA Bn |
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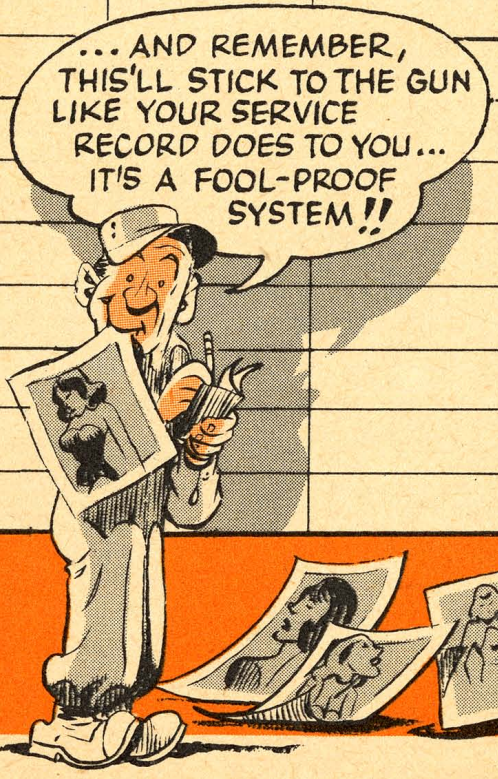
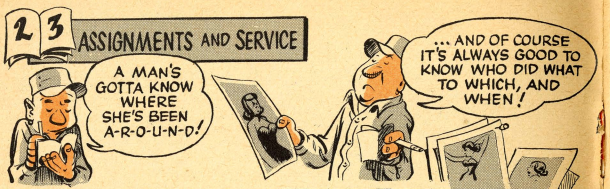



## WEAPON DATA RECORD

| DATE | ENTER BELOW RESULTS OF INSPECTION, REPAIRS, ALTERATIONS, REPLACEMENTS, WORK DONE, CONDITION OF CARRIAGE, RECOIL MECHANISM, BREECH RING, ETC. |
|---|---|
| 12 Jan 1952 | Proof fired 6 rounds. No defects noted. Serviceable.<br>George O'Brien<br>1st Lt., Ord Corps.<br>Proof officer, A.P.G. |
| 27 Feb 1952 | Weapon was completely lubricated, brakes adjusted, wheel bearings repacked. Manometer test of recoil mechanism performed: 1468 p.s.i., temperature 58° F. All safety features checked. Serviceable. Ralph Meeks<br>Capt. Ord Corps.<br>2nd Ord maint. Co. |
| 15 Sept 1952 | New tube Serial No. 2293 installed.<br>John Trumbell<br>1st Lt., Ord Corps,<br>6th Army |
| 25 July 1953 | New firing pin installed. Burr removed from extractor. Replaced tire and wheel which were hit by shell fragment.<br>L. P. Hodge<br>1st Lt., Ord Corps,<br>6th Army |

## 23 ASSIGNMENTS AND SERVICE




**RECORD OF ASSIGNMENTS**

| DATE | BATTERY | UNIT |
|---|---|---|
| Feb 1952 | "B" | 908 FA Bn |

**WEAPON DATA RECORD**

| DATE | ENTER BELOW RESULTS OF INSPECTION, REPAIRS, ALTERATIONS, REPLACEMENTS, WORK DONE, CONDITION OF CARRIAGE, RECOIL MECHANISM, BREECH RING, ETC. |
|---|---|
| 12 Jan 1952 | Proof fired 6 rounds. No defects noted. Serviceable. George O'Brien 1st Lt., Ord Corps. Proof Officer, A.P.G. |
| 27 Feb 1952 | Weapon was completely lubricated, brakes adjusted, wheel bearings repacked, manometer test of recoil mechanism performed: 1968 p.s.i., temperature 58° F. All safety features checked. Serviceable. Guelph Meeks Capt. Ord Corps, 2nd Ord Maint. Co. |
| 15 Sept 1952 | New tube Serial No. 2293 installed. John Trumbell 1st Lt., Ord Corps, 6th Army |
| 25 July 1953 | New firing pin installed. Burr removed from extractor. Replaced tire and wheel which were hit by shell fragment. H.P. Hodge 1st Lt., Ord Corps, 6th Army |

PART II

# CANNON (TUBE) DATA

Here's where the big improvement comes in . . . since you'll be getting a new cannon (tube and breech-ring) liner or tube more often than mounts or carriages . . . This deal gives you a special section for the cannon info.

You'll get a new copy of this section (Part II) every time y'get a new tube or cannon.

Brand the cover like we show you on the right.

**IDENTIFICATION OF COMPONENTS**

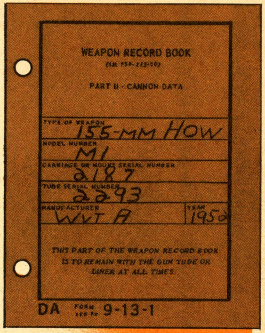
TYPE OF WEAPON: 155-MM How

TUBE SERIAL NUMBER: 2293

MANUFACTURER: Wyt A — YEAR: 1952

TOTAL ROUNDS FIRED: — DATE UNSERVICEABLE:

| COMPONENT | SERIAL NUMBER | MANUFACTURER | YEAR |
|---|---|---|---|
| CANNON OR BREECH RING | 2917 | Wyt A | 1952 |
| CARRIAGE OR MOUNT | 2187 | Wyt A | 1952 |
| RECOIL MECH. | 128 | R.I.A. | 1952 |




**BATTERY COMMANDER'S RECORD**

| DATE | TYPE OF ROUND AND ZONE NUMBER, IF APPLICABLE | NUMBER OF ROUNDS |
|---|---|---|
| 12 Jan 1953 | Proj., Dummy, MK 1 (5 rds at normal pressure, 1 rd at 115% of normal press) | 6 |
| 6 Feb 1953 | H.E. M101 | 189 |
| 8 Feb 1953 | H.E. M101 | 147 |
| 13 Feb 1953 | Smoke M104 | |
| PAGE TOTAL | | 1170 |
| TOTAL ROUNDS FROM PREVIOUS PAGE | | |
| ACCUMULATIVE TOTAL ROUNDS | | 1170 |

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WEAPON RECORD BOOK
(SR 750-[illegible])

PART II - CANNON DATA

TYPE OF WEAPON: 155-MM HOW
MODEL NUMBER: M1
CARRIAGE OR MOUNT SERIAL NUMBER: a187
TUBE SERIAL NUMBER: a293
MANUFACTURER: Wvt A
YEAR: 1952

THIS PART OF THE WEAPON RECORD BOOK IS TO REMAIN WITH THE GUN TUBE OR LINER AT ALL TIMES

DA FORM SEP 53 9-13-1

**IDENTIFICATION OF COMPONENTS**

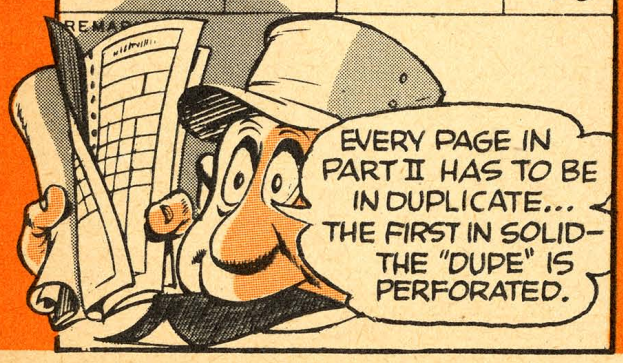
TYPE OF WEAPON: 155-MM How

TUBE SERIAL NUMBER: 2293

MANUFACTURER: Wvt A — YEAR: 1952

TOTAL ROUNDS FIRED — DATE UNSERVICEABLE

| COMPONENT | SERIAL NUMBER | MANUFACTURER | YEAR |
|---|---|---|---|
| CANNON OR BREECH RING | 2917 | Wvt A | 1952 |
| CARRIAGE OR MOUNT | 2187 | Wvt A | 1952 |
| RECOIL MECH. | 128 | R.I.A. | 1952 |
| REMA[illegible] | | | |




**BATTERY COMMANDER'S RECORD**

| DATE | TYPE OF ROUND AND ZONE NUMBER, IF APPLICABLE | NUMBER OF ROUNDS |
|---|---|---|
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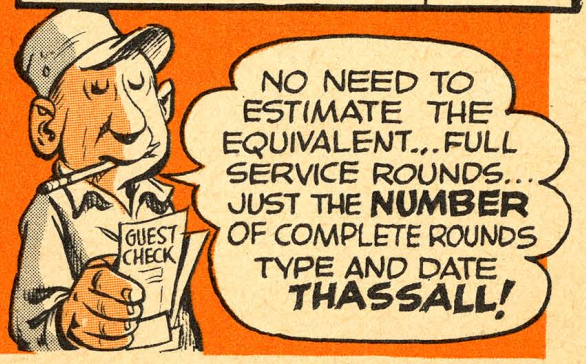


# NEVER TEAR OUT ANY PAGES, NO MATTER HOW BADLY YOU NEED PAPER

SEND ANY STRAYS YOU FIND TO THE CHIEF OF ORDNANCE, ATTN: ORDFM, WASHINGTON 25, DC

These duplicates are needed when Ordnance distributes the valuable information you accumulate in the gun book.

**BORE INSPECTION RECORD**

| DATE | TOTAL ROUNDS FIRED TO DATE | VERTICAL DIAMETER OF LANDS AT 47.80" FROM BREECH END OF TUBE | |
|---|---|---|---|
| | | STAR-GAGE | PULLOVER GAGE |
| 12 Jan 1953 | 6 | 6.102" | ---- |
| 3 May 1953 | 1170 | ---- | 6.230" |
| 8 Aug 1953 | 1900 | ---- | 6.260" |
| Sept 1953 | 1804 | ---- | 6.273" |

PLEASE NOTE: THE VERY IMPORTANT BORE INSPECTION RECORD COMES IN TWO STYLES... YOU GOTTA-FILL-IN-**BOTH**-FIRST HERE, AND COMMENT ON NEXT PAGE.

**BORE INSPECTION RECORD**

| ESTIMATED REMAINING ACCURACY LIFE AS PER TB 9-1860-2 | REMARKS ON CONDITION OF BORE AND CHAMBER, RESULTS OF BALLISTIC CALIBRATION FIRINGS, DAMAGE TO TUBE, SERVICEABILITY, ETC. (Reasons for condemnation) |
|---|---|
| 1794 | Serviceable<br>John G. Poe<br>Physical Test Lab<br>A.P.G. |
| 630 | Visual inspection of bore indicates no evidence of cracks.<br>Sgt. Wm Flower<br>Arty. Sec chief,<br>1st and. Maint. Co. |
| 100 | Small gouge across two lands at 2:00 o'clock .53" from C of R. Serviceable.<br>Timothy Switch<br>1st Lt. Ord Corps<br>19th Ord. Maint. Co. |
| None | Unserviceable. Pullover gage reading exceed 3 maximum allowable diameter specified in TB 9-1860-2.<br>Sent to ---------- for disposition<br>Date ------<br>L. R. Jones<br>Capt. Arty.<br>92nd A.F.A. Bn. |

IF YOU'VE GOT ANY DOUBTS ON HOW TO GAGE USE OR METHODS.... CHECK TB-9-1860-2 (WITH CHANGES)

# HOW TO TAKE CARE OF Y'R L'L BROWN BOOK

When the tube (or cannon) is to be replaced, Part II is taken loose and goes with the tube (or cannon). When the tube (or cannon) is condemned, its Part II is sent to the Office, Chief of Ordnance, Field Service Division, ORDFM, Washington 25, D. C.

You gotta make sure you get the needed dope out of it, though, before it gets outta your hands. You hafta summarize the info in Part II on the Summary Sheet in your permanent Part I which stays with the mount or carriage.

If Part I becomes filled before the carriage or mount is condemned, just staple additional copies of Part I to it as you need them. They'll all stay together, right with the carriage or mount.

What good gunner would lose a weapon record book? None, of course, but it's been known to happen. In case such a sad situation should fall on you, here's the only way out. Notify the Ordnance officer who's charged with maintenance of your weapon, get a new book, record all the information you can in the new book, and estimate the number of rounds fired from the tube you have by comparing the pullover gage reading with the right curve as shown in TB 9-1860-2.

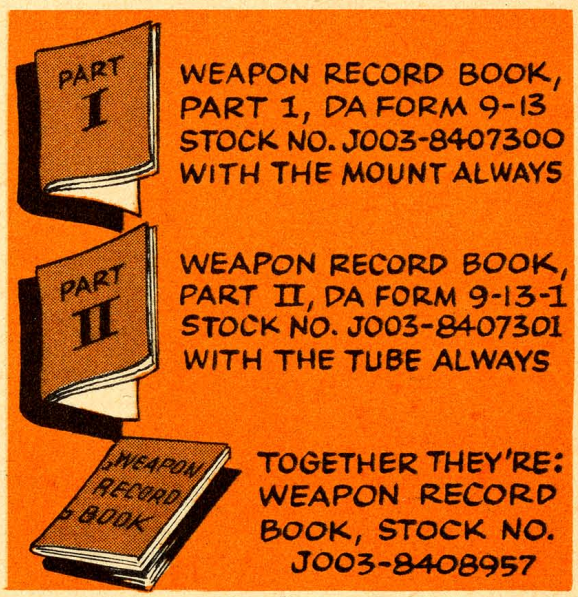
Information on any happening of unusual importance concerning the weapon can be recorded in the book.

This new style of gun book replaces the one you've been using — Form 00 5825. You'll use the old gun book as long as you've got 'em.

When you get your old style book filled up, staple it to Part I of your new one so they'll stick together. Then, the first time you get rid of a tube (or cannon), summarize the dope in the 5825 **and** your Part II, and enter your summary in Part I. After you do that you can send both the 5825 and Part II of your new book in with the tube (or cannon) you are scrapping.

If you're from Missouri, you can look in SR 750-115-20 for this dope. This new gun book is an AG production, distributed thru Ordnance.

## HERE'S TH' NOMENCLATURE




So there you are--your new style Little Brown Book. Keep track of all your numbers. That way when you gunners are ready to ram one home, you don't have to wonder if she's past her time.

## HOT TIPS ON HEATERS

Maybe you're broiling under a desert sun right now, but drop everything and take a quick gander at your personnel-heater manifold. That's the metal casting mounted at the top of the hull, connecting the exhaust tubes to the exhaust hose inside (Fig 1). If yours is one of the few M48's that slipped through with this manifold painted, get that paint off. When it's heated it gives off enough fumes to play hob with any hardy tankman while buttoned-up.

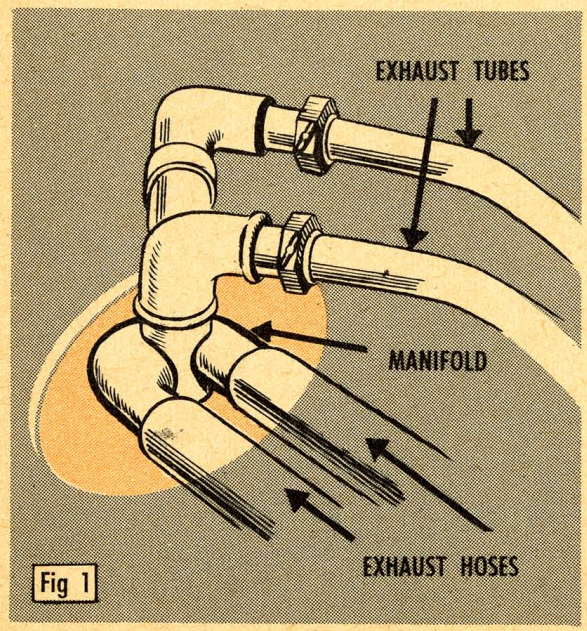
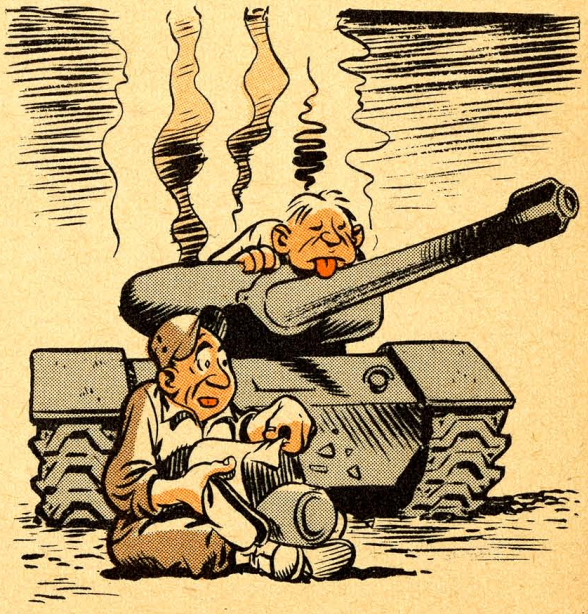
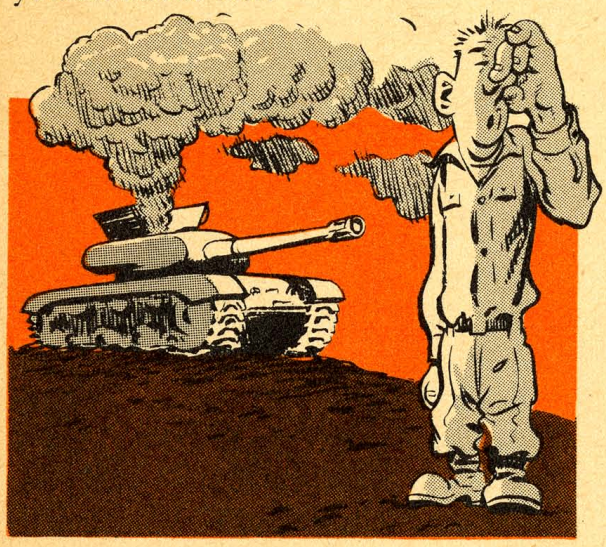


Fig 1



You can get rid of the paint by scraping or burning it off. Or, let the heater run for at least eight hours; that'll burn out the fumes past the bothersome point. But the main thing is to get it done now. A technical bulletin will tell you all about this.



Now a word about operating the heaters. You don't have to close the master-relay switch to get heat. However, the personnel-heater emergency-switch (located just to the left of the heater control-panels) must be on, as well as the power (ON-OFF) switch on the heater control-panel (Figs 2 and 3).

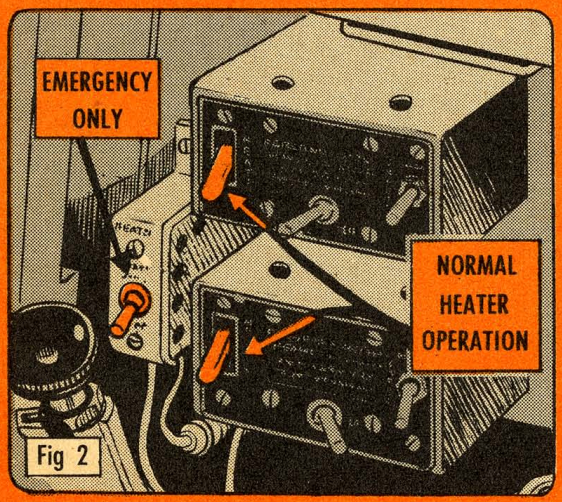
Fact is, this emergency switch should be left on all the time—except when such emergencies as fording or enemy gas attack demand that all power be cut off from the heater units.

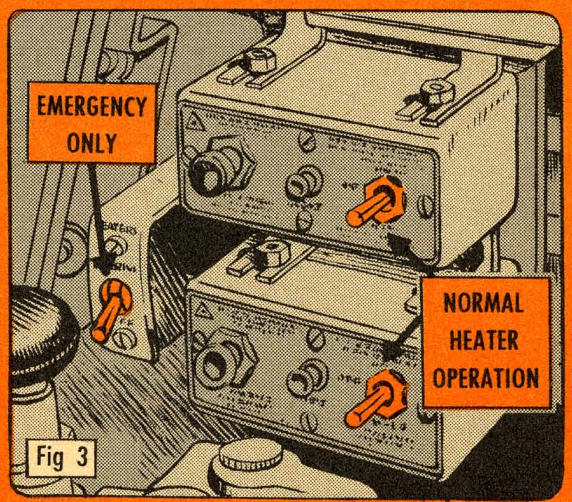
You never use the emergency switch just to turn off the heaters when you're through with 'em.

Here's the reason. These heaters are self-purging. When you shut 'em off at the power ON-OFF switch (as you should), the fuel flow stops at once. But, a delay-action thermal switch lets the blowers run for two or three minutes longer—so they'll cool the heater and kick out any unburned gases left in the unit.

If you flip off the emergency switch, you override this delayed action and immediately cut off all power to the heater units—including the blowers. Which leaves your heaters in a dangerous, unpurged condition. You'll see this in the revised M48 TM.

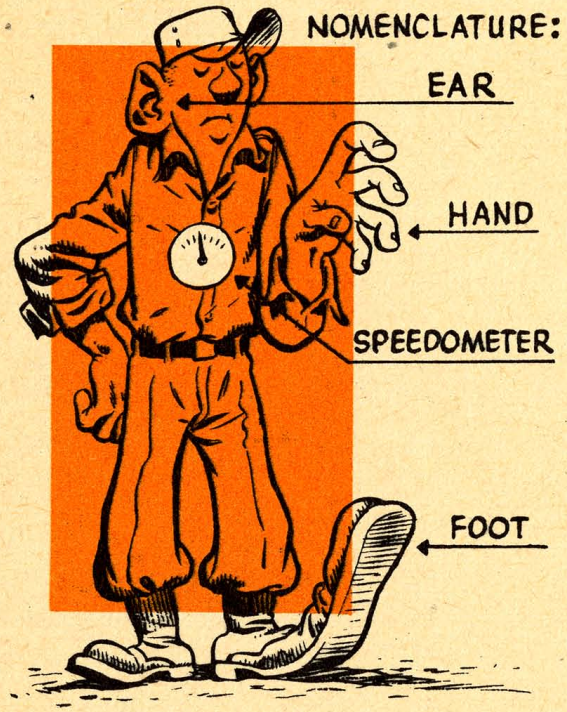
**TAKE A GOOD LOOK AT YOUR M48 HEATER SWITCHES —YOU MIGHT HAVE EITHER ONE OF THESE...**



## TOUCH vs TACHO

If you're irked because your M48 is minus a tachometer, may as well quit yer twitchin'—and learn to live without it. A little practice and you've got the "touch" or "feel" of the engine speeds y'need to know.




One speed that best not be trusted to calculation, though, is Low Idle (650-RPM). Hook up your electric tachometer and make this setting at the idle speed adjusting screws on both carburetors.

Other speeds you can learn to estimate . . . with a little practice.

High Idle, used for warm up, should be between 1000 and 1200-RPM. You learn to feel it as about the highest speed the idling engine takes without feeling like it wants to take off like a big gas bird. Set it with the hand throttle for the five-minutes warm up.

Normal Idle is in between low and high at about 800-RPM, or a little more. This y'set with the hand throttle whenever it's necessary to park your buggy for a while with the engine running. At Normal Idle she should turn over free and easy, keeping everything ready for a take-off. Long idling at Low Idle (throttle all the way in) will foul up your plugs quick.

To get the speed you need for magneto checks, use about half your throttle play or whatever throttle setting your tank takes to give you the 1800-RPM's.

For best results on a mag check—without benefit of tachometer—use an "outside" man. Have a buddy bend an ear to the exhausts for signs of missing as you check the mags, first one bank and then the other.

## DRIVER'S PERISCOPE

When you get your M48 tank OVM and remove the driver's periscope from its box, make sure you don't leave its seal (triangular) in the box. Some of these jobs slipped through without having the seal cemented to the 'scope as it oughta be. If yours is one like that, take some common rubber cement and stick that seal in place (Fig 4).

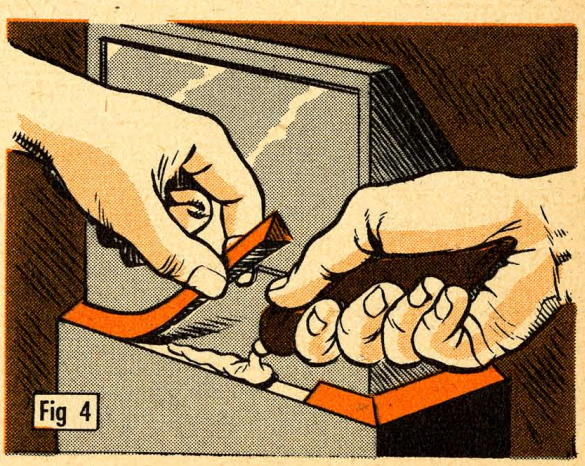


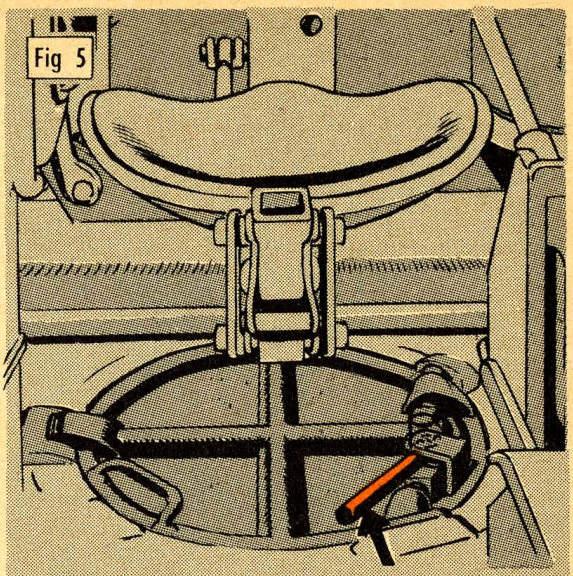
Fig 4

## DRIVER'S ESCAPE HATCH

Your M48 tank may have either of two types of driver's escape hatches. On the earlier models the hatch release-lever pulls upward and lets the door drop out. On the newer ones you push the lever sideways (Fig 5).

Good idea to get familiar with the hatch on your particular tank. Some time you might need to vacate in a hurry —and the time you'll lose by tugging on the lever in the wrong direction may make the difference.

This dope will be in the next revision of TM 9-718B.



SWING NEW-TYPE HATCH LEVER TOWARD CENTER

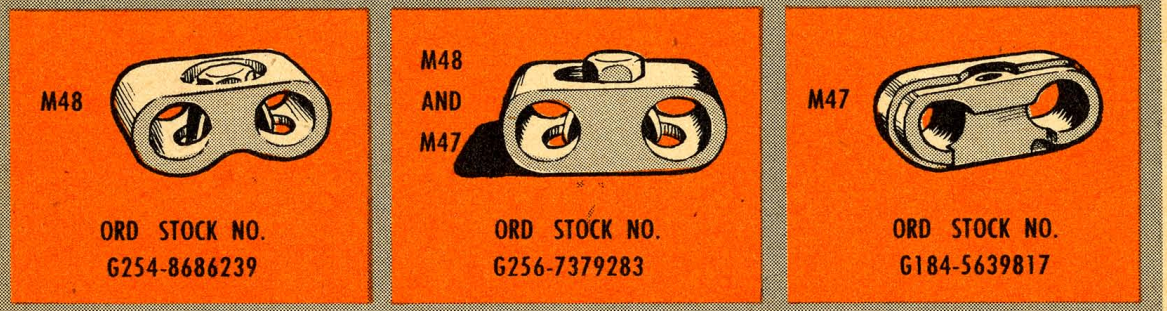
## TRACK END-CONNECTORS

You can now say "goom-bye" to wedge-bolt troubles on the M48 track end-connectors. Seems on the early types the nut or bolt head took a peening from the first roadwheel-arm housing skid-plate.

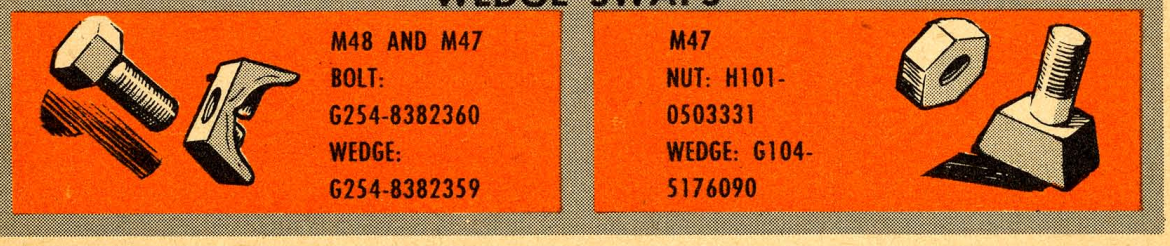
The new connector assembly now out has a different set-up—a wedge bolt which engages a drilled-and-tapped wedge, and a counter-sink to protect the wedge-bolt head.

This latest M48 connector is not recommended for use on the M47. Being "beefed up" to allow for the counter-sink makes it too fat for the present M47 sprocket. However, the new bolt-wedge assembly is interchangeable and is much more satisfactory than the old type with the short-lived wedge nut.

### CONNECTOR SWAPS




### WEDGE SWAPS



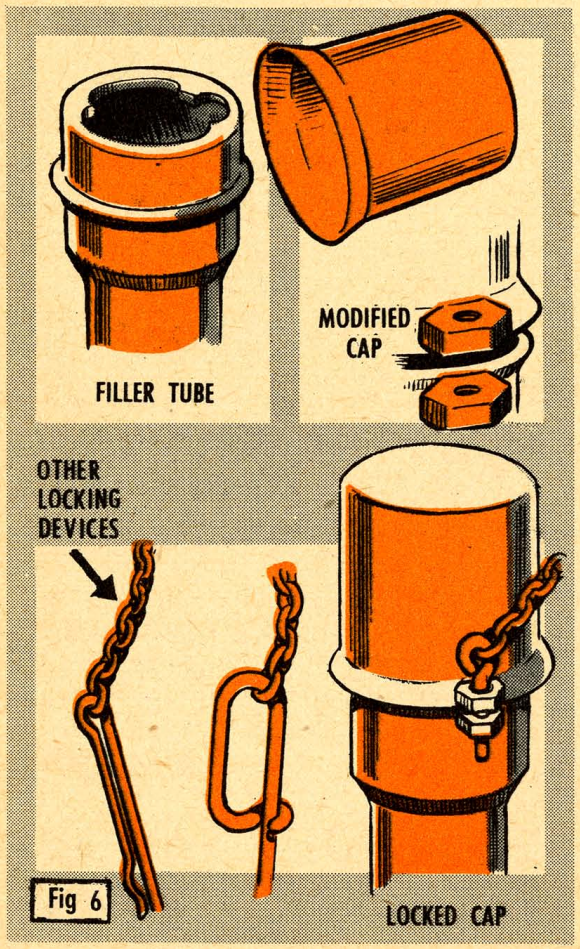
## TANK OIL-CAP LOCK

Dear Editor,

We've had some failures on Continental AV-1790 engines here because the oil-filler caps came off and let lots of dust get into the crankcase. We blame this on the spring disk in the cap failing as a result of engine vibration. But, also, sometimes the drivers are not hanging on to that hot cap long enough to be sure it's down tight.

I saw your suggestion for a lock for L-19 oil-filler caps in PS, and we applied it to our tank engines as shown in the sketch (Fig 6). Might be that this would help someone else.

**Joe Stuller and R. Cassilly**
**Aberdeen Proving Ground, Maryland**




*(Ed Note—We don't see why this wouldn't be a good idea. It'll work on the AOS-895-3 engines, too.)*

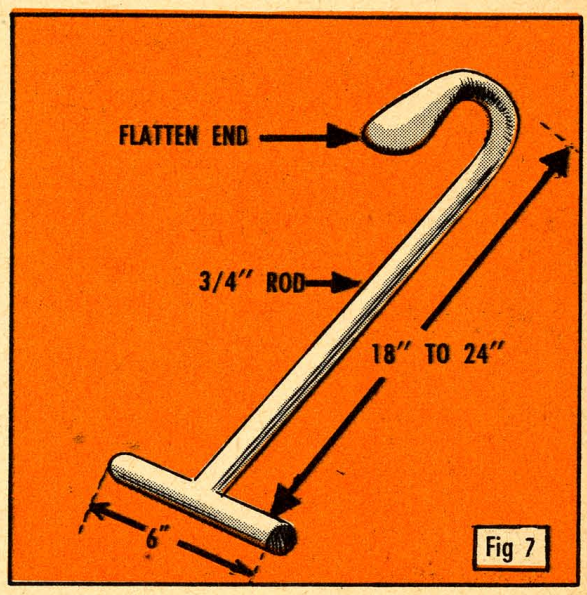
## MUD HOOKS

Dear Editor,

When running our M48 tanks in deep mud we have found the hook shown below (Fig 7) to be useful for getting heavy chunks of mud out of the suspension systems. We make them out of old concrete re-enforcing rod or similar steel rod, about 18 inches to 2 feet long, with a flat blade on the hook end and a T-handle.

Also we have found that after a couple of days of operating in real sticky mud, it pays us to check the track support-roller bearings. If the mud is mean and sticky enough, the shape of the hull sometimes forces it past the oil seals and into the support-roller bearings.

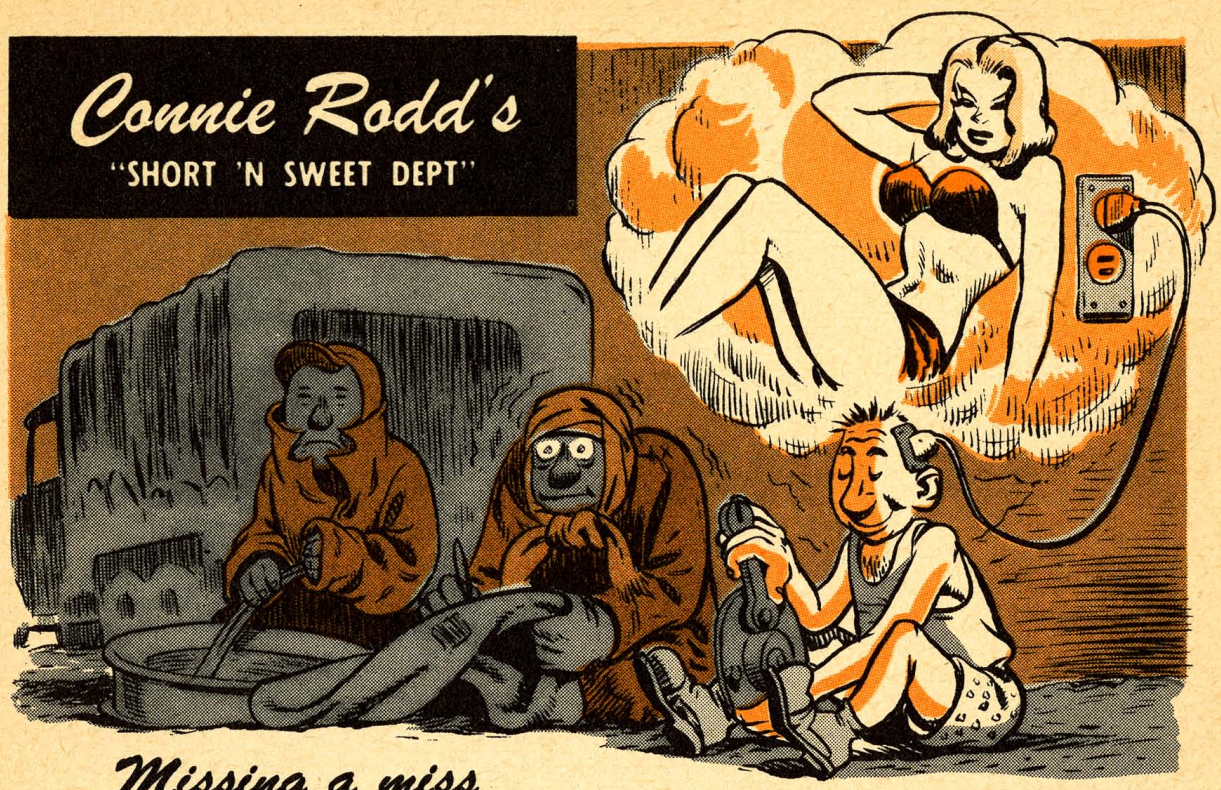
**Captain Sturber**
**Ft Hood, Texas**




*(Ed Note—Two good ideas to stop trouble early.)*

# Connie Rodd's

"SHORT 'N SWEET DEPT"

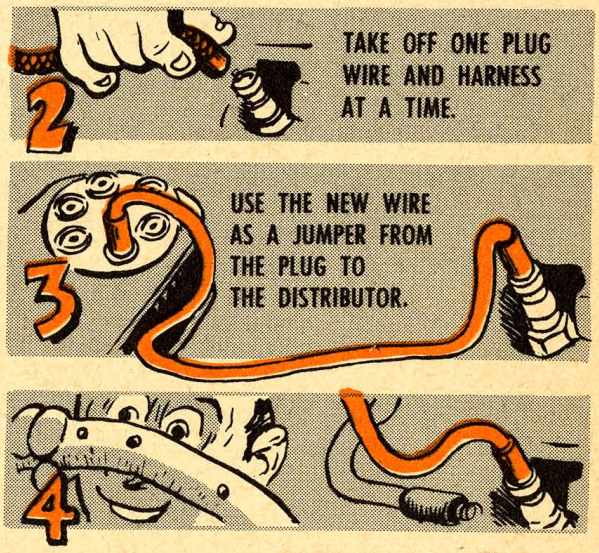


## Missing a miss

A lotta you fellas are missin' a miss when it comes to an engine that's missing. Saw some guys tossin' out spark plugs, points and distributors—or even changin' carburetors. And did they miss it! Still had the miss!

All those parts and energy're wasted in a lot of cases. They're not looking in the right place first for that tricky miss.

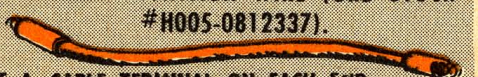
When you go on the make for a miss —in the engine—check your spark-plug cables first. The rubber casing on a lot of those plug cables is turning up with tiny pin-holes in it. The pin holes are almost invisible, but they let the spark jump thru to the metal inside the shield and cause the miss.




IF YOU LOSE THE MISS WHEN YOU USE THE JUMPER, THE 5-MM IGNITION WIRE NEEDS CHANGING . . . IT'S A BAD PIECE . . . YOU'VE GOT THE CULPRIT. NO NEED TO REPLACE THE SHIELD . . . IT'S EASIER TO HANDLE THIS WAY — FIRST.

**HERE'S HOW**

1 GET A PIECE OF GOOD 5-MM IGNITION WIRE (ORD STOCK #H005-0812337).



PUT A CABLE TERMINAL ON EACH END.

You may have to replace the silicone insulator (H004-7526949), pin (H004-7526940), sleeve (H004-7526951), and compression spring (H004-7526961).

## Check your 5-tonner's LO

It's not necessary to clean and oil your 5-tonner's winch-jaw clutch at 1000-mile intervals like it says in LO 9-8028. This is a throw-back to winches with exposed clutches. The new models have the clutch inclosed in the gear case and are self-lubed by the gear-case lube.

Change the capacity of crane hydraulic-oil tank to read "45 gallons." (Item No. 14 on back under Notes.)

Leave a note about this so the next guy will know.

## Very boring

Didja try to drill a 3/16-inch hole in 3/16-inch rod like TB Ord 545 said? You'll never make a tank track-sprocket wear-gage that way.

Instead of the 3/16-inch rod, use one that's 3/8 inch in diameter, standard item Ord Stock No. H010-0421060, and you'll have it made. You'll see this dope in a new version of TB Ord 545.

## Ruptured diaphragm

When your vehicle's idling a little faster than normal and its engine acts like it's got the seven-year itch, it could be ruptured in the vacuum-pump diaphragm. Added to this rough idle, you'll probably find it using too much oil and see it huff and puff blue smoke out of its rear end.

But to make sure it's not something like a loose crankcase ventilating-valve or such, disconnect the vacuum line between the pump and engine and see if there's any oil in the pipe. If there is, and the engine runs smoother with the line off—you've had it.

Ordnance has the kit you need to rebuild your pump. All you gotta do is turn in the one you've got for another and they'll take care of the rest.

## Fanfare

A Jeep with a loose belt is soon caught with its pants down. Unless its fan belts are tight enough, the Jeep's generator and water pump aren't going to put the necessary oomph into their jobs.

And drawing those belts too tight isn't good, either. That puts a strain on the bearings of both those units and that'll cause leaks as well as a rebuild job for the water pump—sorta cut your water off.

The M38 and 'A1 have a deep V in the pulley system, and could stand looser fan belts than a system more tightly packed. But get it too loose and the belts soon get frayed and glazed and turn blue. Mousey squeals from under the hood will be your warning to draw in your belt.

Keep your eyes and ears open for loose belts. Especially on vehicles like the M38 and 'A1, with a matched pair of fan belts. What often happens is that when one belt goes bad, men change it for a new one without changing the other. Then, since belts stretch, you soon have one tighter than the other.

Whenever you have a vehicle with double belts, replace them both at the same time if you can.

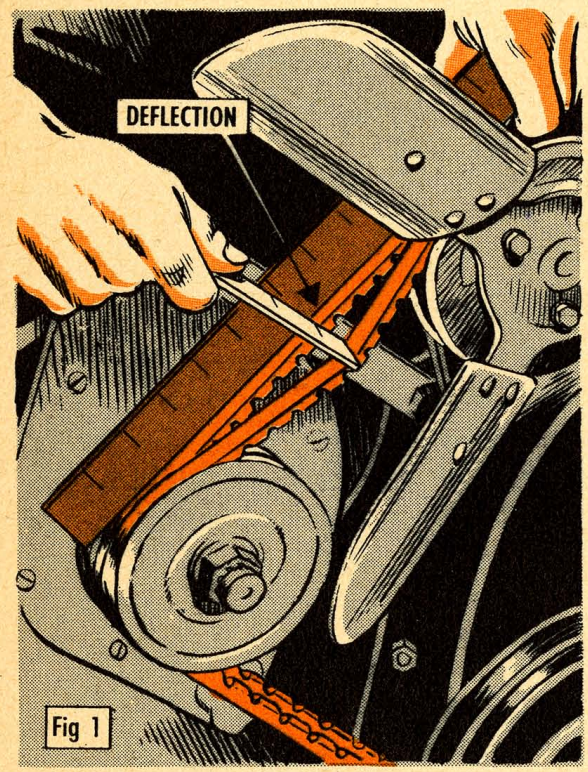


Fig 1

And stick to the adjustments called for in the TM's—1-inch deflection on the M38 and 3/4-inch on the M38A1 (Fig 1). With it, those parts should be going around together for a long time.

## The name's the same

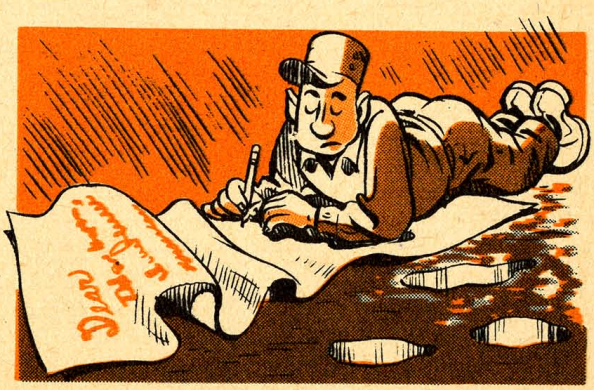
Some people have been lookin' at their armored infantry vehicles, M75's (T18E1), sitting side-by side, and wondering, what the heck—'tain't the same vehicle at all. The name's the same, but that's about as far as it goes. You're not just seeing things, soldier, so relax.

These carriers, made by International Harvester and Food Machinery Corporation, got a giant-size change during production. All the switch-a-roos made 'em completely different vehicles—almost.

For the most part, the big change was made starting with IHC Vehicle Serial No. 377, and FMCC Vehicle Serial No. F1327.

But don't flip if you find that your particular buggy got some of its changes **before** these serial number breakpoints. Take the gas tanks, for instance: The two gas tanks on the earlier jobs were replaced by one, larger gas tank on the later models . . . but . . . you'll find that some IHC's **below** Serial No. 377 jumped the gun and came out of production with the single gas tank. That's the way it goes.

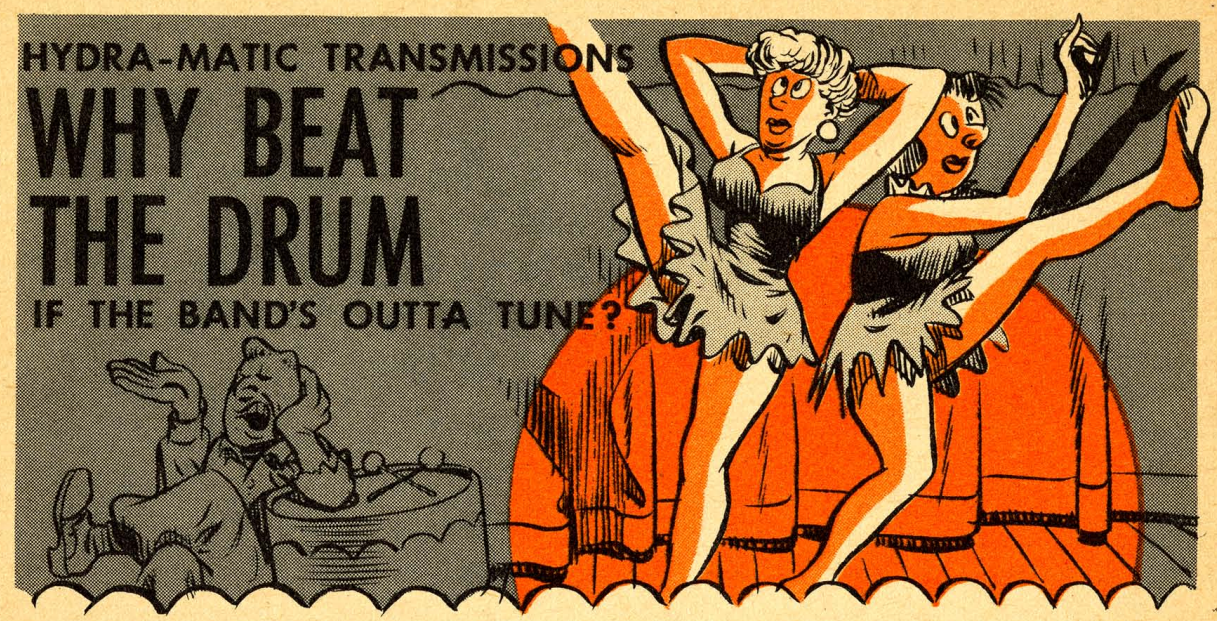
A new Ord 7 SNL for these M75's is in the works and it'll identify parts by vehicle serial number. It oughta straighten out the whole fuzzed-up situation for you. In the meanwhile, if you got questions on 'em, write to Half-Mast.



HYDRA-MATIC TRANSMISSIONS

# WHY BEAT THE DRUM

## IF THE BAND'S OUTTA TUNE?



Until the front band in your GMC automatic transmission gets itself accustomed to the drum, it's going to need an adjustment check—often.

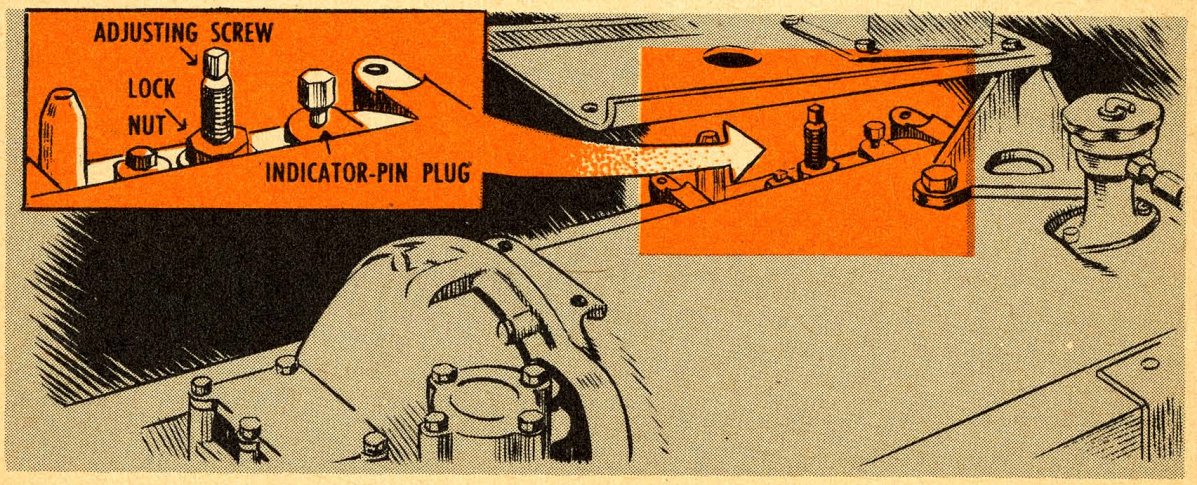
This is mighty important to the life of the transmission. Here's how you do the latest check and adjustment.

You make the first check and adjustment as soon as you receive a new truck.

The second is after you put 200 miles on the buggy and is just as important as the first. The next is at 500 miles. During that first 500 miles the band and drum are going thru the rub-in and setting period.

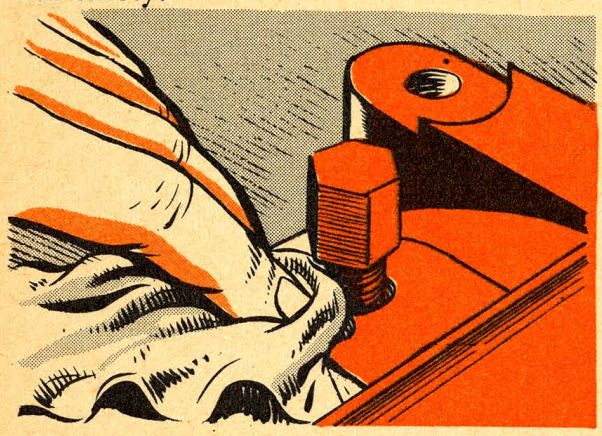
The fourth . . . after 1500 miles of operation you again check the band and adjust if it needs it. It's a good idea to repeat the procedure from here on often, depending on operating conditions. Do it at least after every 1000 miles of operation. TB 9-819A-1 (9 July 52) gives you the official dope.

What procedure? Read on and you'll get the low-down on an easy thing—but like you been told—mighty important.

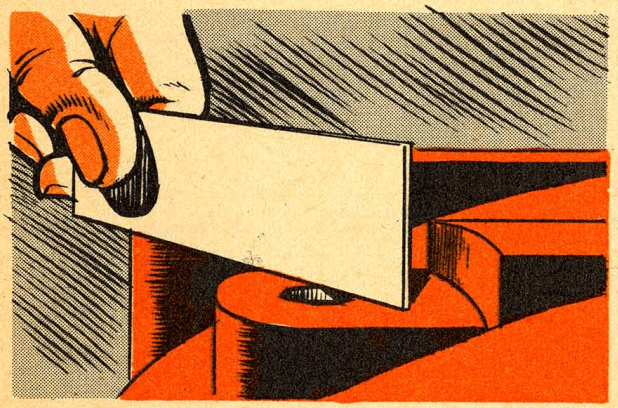


Under the shift-tower mounting support, on the left side of the transmission, there's a plug and adjusting-screw. These are the babies that put that band in its place.

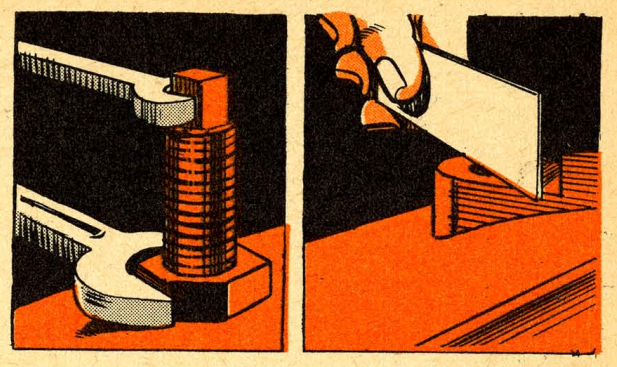
Clean the indicator-pin plug and all the surface around it. Then run the engine at idling speed, with the control-lever in F-1 HIGH RANGE position, parking brake set or wheels blocked for safety.



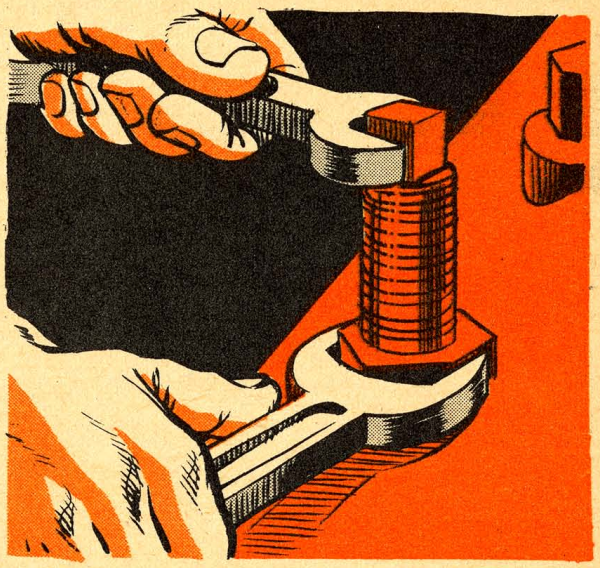
Unscrew the indicator-pin plug and check to see if the indicator-pin is flush with the machined surface around the hole. You can use a straight edge or your finger to get the feel.



If the pin isn't flush, loosen the adjusting-screw lock-nut. Turn the adjusting-screw until the indicator-pin is flush with the machined surface of the case.



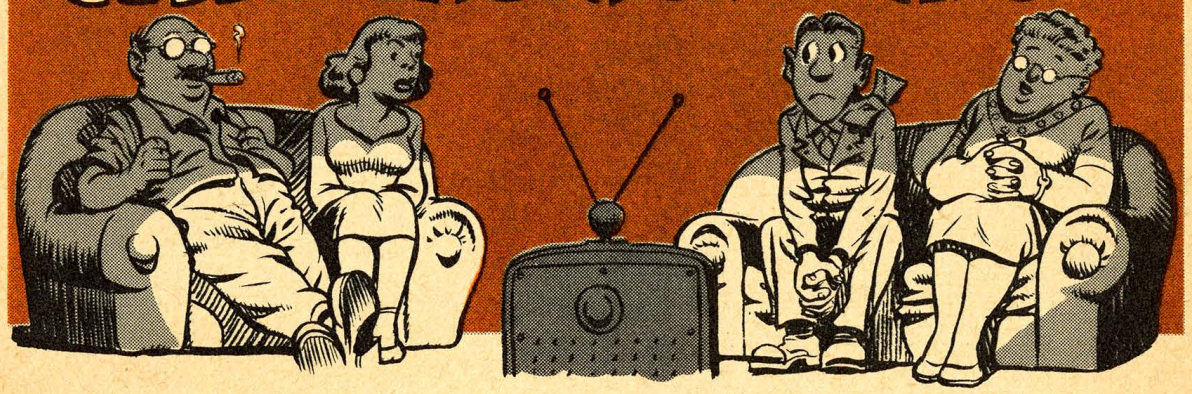
Now that you've got the band adjusted, you hold on to the adjusting-screw and tighten the lock-nut. Be sure you hold that screw tight or you might have to start on another adjustment.



You've got the lock-nut tight. Check the pin again. If she's still flush, put the plug back over the pin—that's it.

And at any time that shifts don't occur like it says in Table VIII, page 259, TM 9-819A, the front-band adjustment should be checked. Of course, if front-band adjustment doesn't give you the right shift, then you'll have to go to Table IX, page 260, of the same TM to set you straight. The rear-band adjustment, by the way, is something you don't have to touch—it's automatic.

# 8T BATTERIES MAY HAVE THEIR CELLS BAZZACKWARDS



*Oops!* Somebody mixed their shot.

It seems that a whole slug of the 8T batteries (used in the old M4A3 tank series) may have one or more of the cells assembled backwards.

Trouble is, since these batteries were made and shipped dry-charged, nothing will show up until the battery goes in service.

So, if you've got any, check 'em. You the user, (or the guy who puts the electrolyte in) can find the troublesome ones.

Here's what to look for—look at the cell button which has the code stamped on it (Fig 1). The top figure is the shipping date, month by number and year by last digit (83 is August 1953). The next figure is the date of manufacture, **month** by number, **day** by letter, **year** by last digit (6H3 is June 8, 1953). And the **first** letter on the third line tells what plant made it.

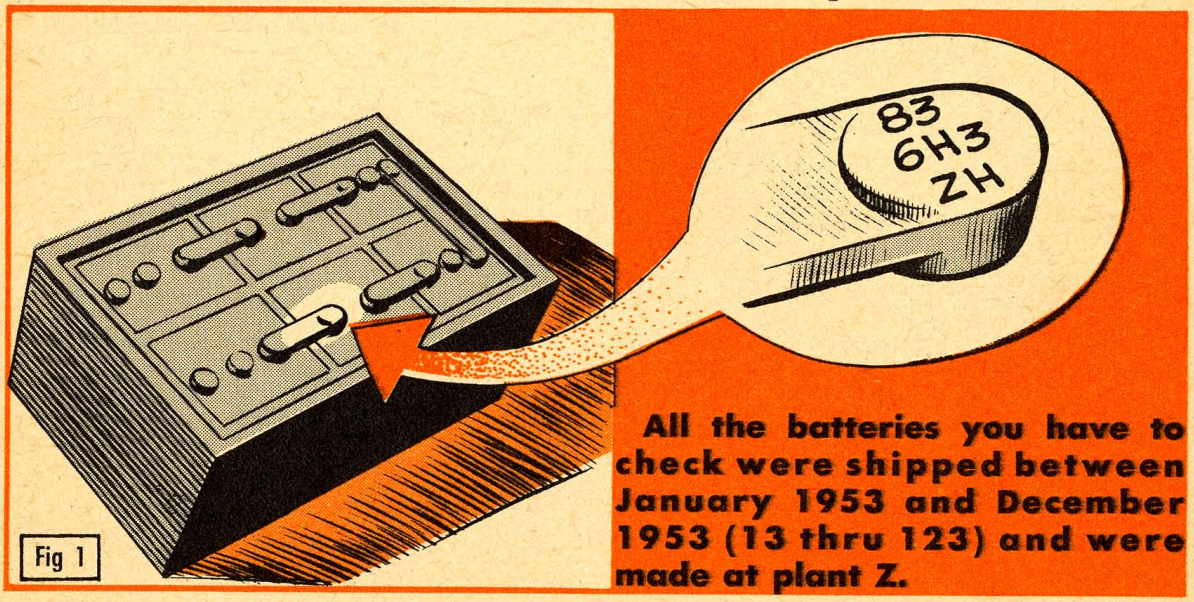
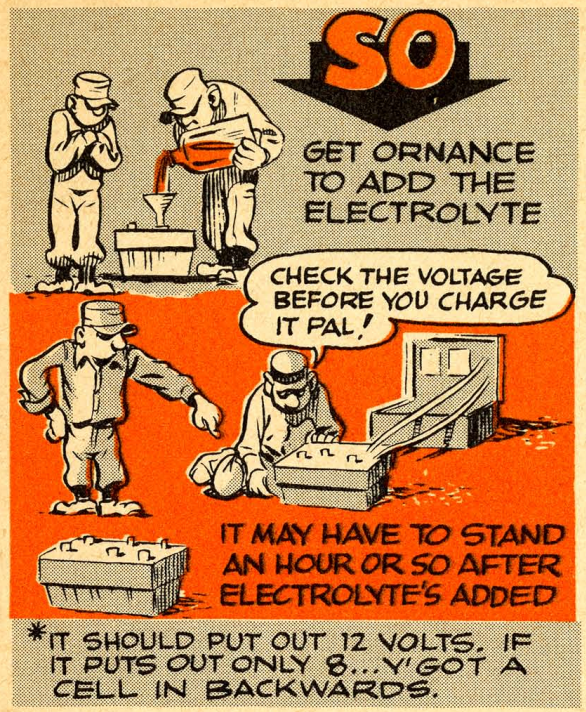



Fig 1

**All the batteries you have to check were shipped between January 1953 and December 1953 (13 thru 123) and were made at plant Z.**




Here's how you can check the ones that're in use: Take chalk or a piece of keel, and starting at the positive post, mark the proper polarity on each end of each cell. Positive-negative, positive-negative, etc. all the way through to the negative post (Fig 2).

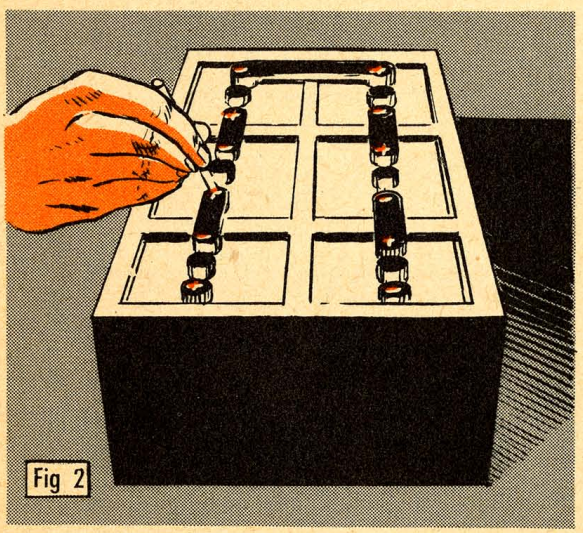


Fig 2

Then, take your voltmeter and check each cell to be sure that the actual polarity agrees with your chalk marks. Remember to touch the leads to each end of the cell. If the polarity is reversed, one or more of the cells will swing your voltmeter the wrong way. Instead of reading two volts, it will try to get off the scale below zero (Fig 3). And while there is no positive proof that the cells were assembled wrong, it does mean that the polarity is reversed and you oughta turn in the battery for a new one, anyway.

Be real careful in using the voltmeter so you'll always get the positive lead on what's supposed to be the positive end of the cell or you will get the wrong answer.

When you do find a defective battery that hasn't been put into service yet, all you can do is fill out a UER (DA 468) and turn the battery in for a new one.

All the known defective batteries of this type are in the group made under contract No. DA 20-113-Ord-7902 on the dates mentioned. The contract number is usually found on the box the battery's shipped in. You can check the polarity of your voltmeter by trying it on a known good battery.

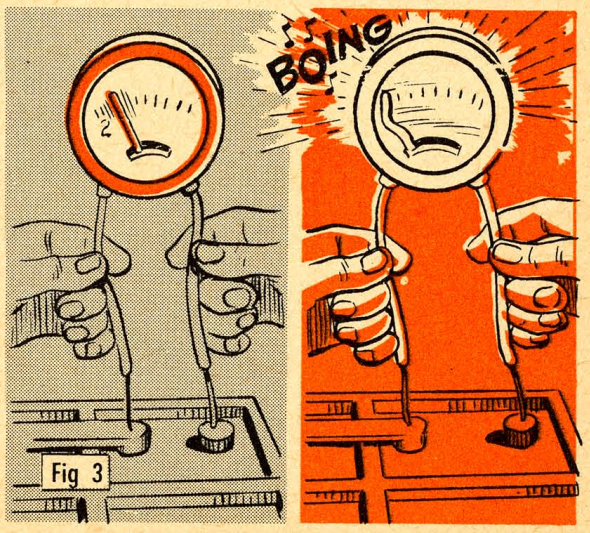


Fig 3

To put some light on the subject, to save some money, and to make them easier to install, the double-connector light switches on all M-type vehicles (trucks and tanks) are on their last volts. In their place you'll be using the single-connector switch.

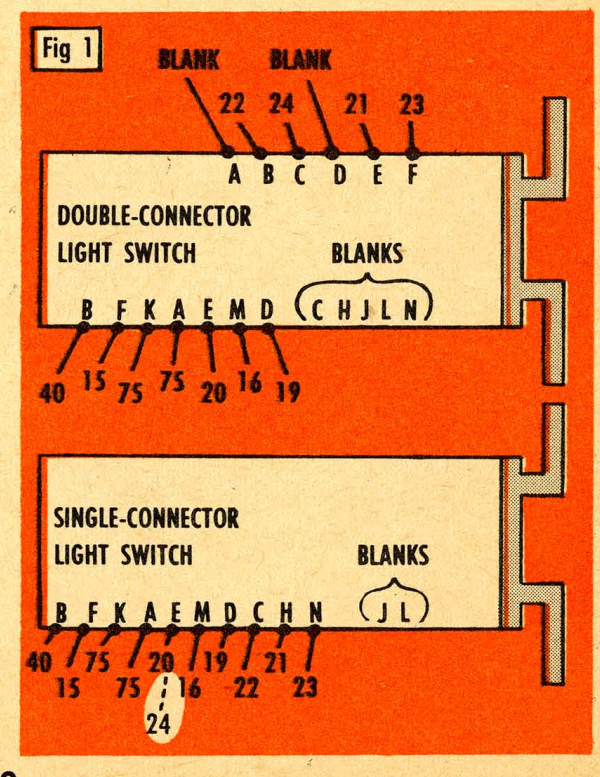
Up to now the M's have all had two conduits of wires coming up to the light switch on the dashboard. And that switch had connectors on two sides to take the wires from each harness. But there've been some changes made. The latest vehicles are coming out with only one harness of wires, and the latest switches have connectors on only a single side.

So—the double-connector switches are no longer manufactured. Which is OK for the latest vehicles. But when you ask for a double, all you'll be able to get is a single-connector switch (Ord Stock No. G742-7355600). This switch, which has its circuit breakers on the battery box, is due for replacement by another single connector that contains the circuit breakers . . . It's Ord Stock No. G742-7368702.

How to hitch a single connector to an older M-vehicle with the two conduits of wires is the problem. But you'll find no trouble making all ends meet by splicing circuits as indicated in Fig 1. This method is also followed when using Switch, Ord Stock No. G742-7368702, as replacement.

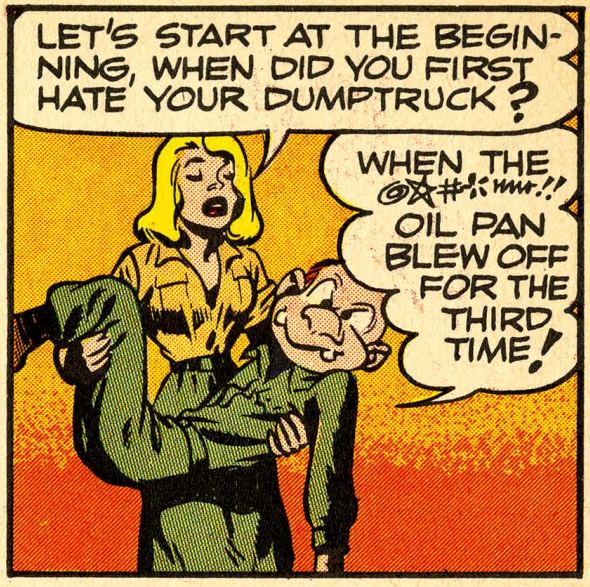
There's one thing more. When connecting the single switch on many of the older vehicles, you'll notice that Line 24 can be connected to a fast coupler already installed as an extra outlet on Line 20. Without the coupler, all you can do is to splice the two lines together. When you do that, be sure the lines are tightly joined and taped.

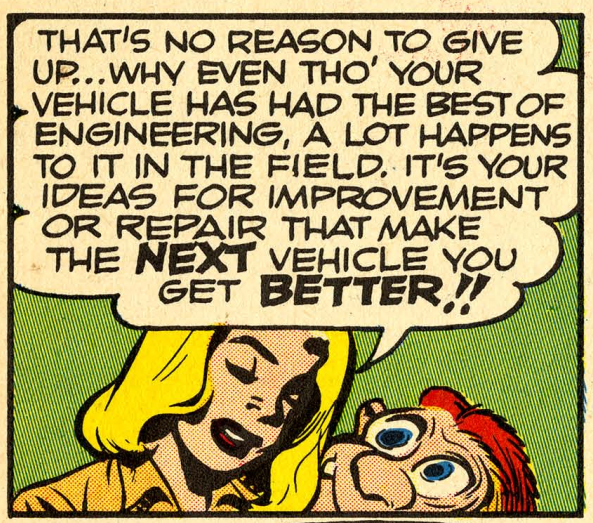
You'll be seeing a lot of it, so you may as well get acquainted with the new set-up now.

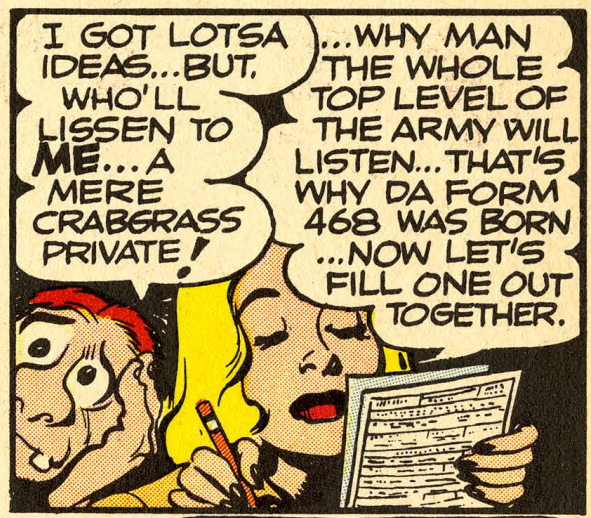


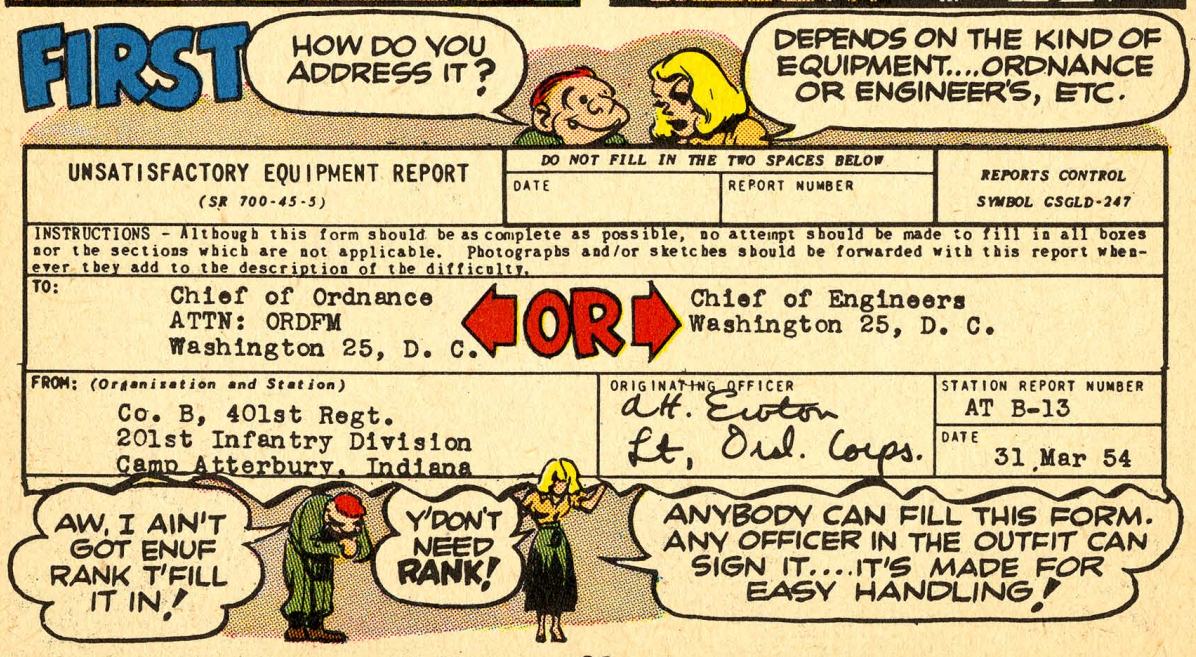
JOE DOPE
HOW TO FILL OUT A UER (OR PUT Y'R DA FORM 468 WHERE Y'R MOUTH IS)
UER
UER
UER
I DREAMED I WAS A General IN MY AIDIN' FORM UER
LIE BACK AND RELAX, SON, YOU'VE HAD A NERVOUS BREAKDOWN...WE'RE GETTING A SPECIALIST FOR YOU!
HERE'S THE DOCTOR NOW, SIR!
THAT'S THE SPECIALIST ???
YES SIR...SHE'S A PS MAGAZINE EXPERT! VERY SUCCESSFUL WITH MECHANICS!
HMM... PVT. FOSGNOFF, EH ???
WOW! I FEEL BETTER ALREADY!

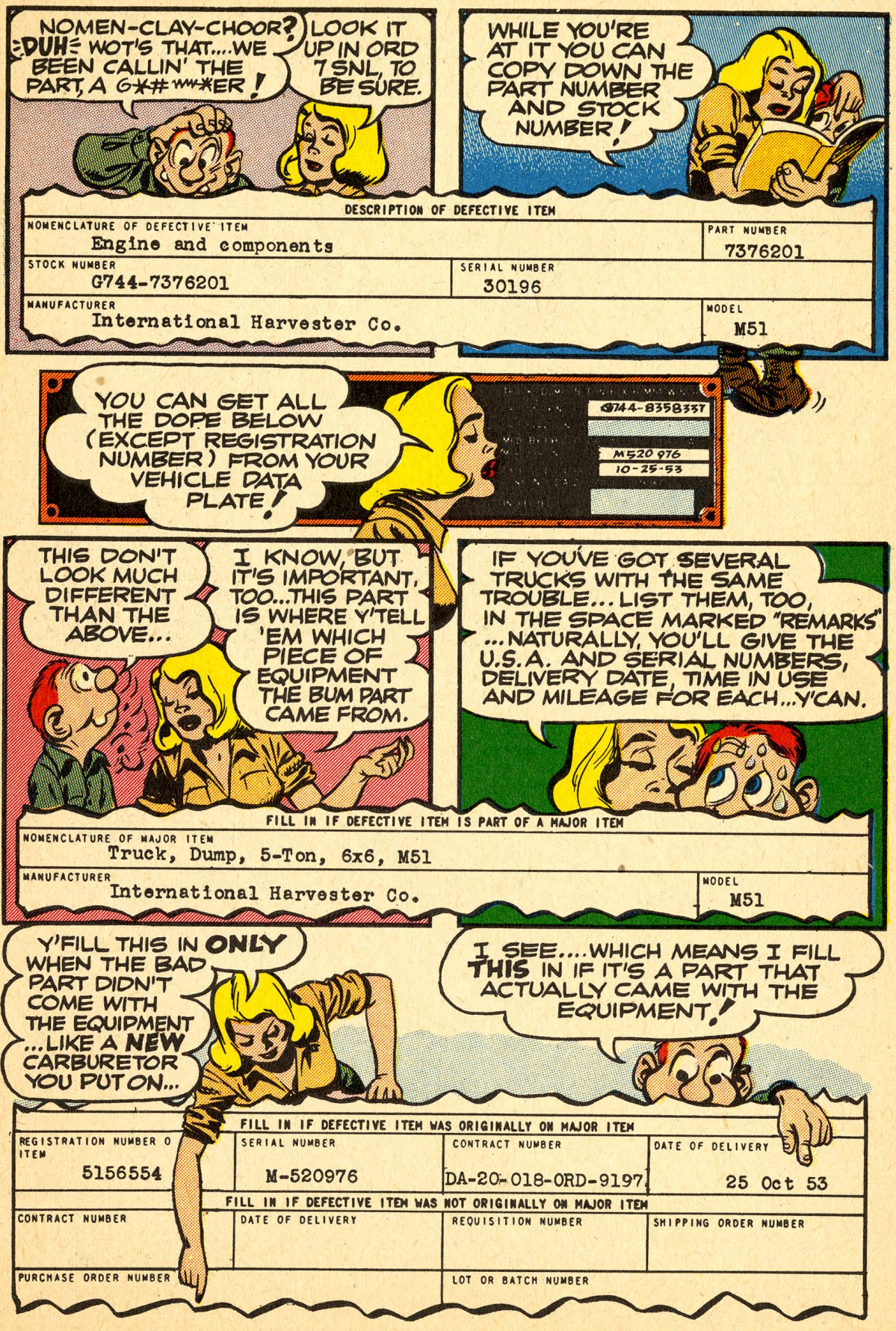
WELL, DOCTOR, WHAT'S YOUR DIAGNOSIS?
A CLEAR CASE OF ADVANCE FRUSTRATION ...FILL A BUCKET OF ICE WATER... AND GET ME THREE UER FORMS!

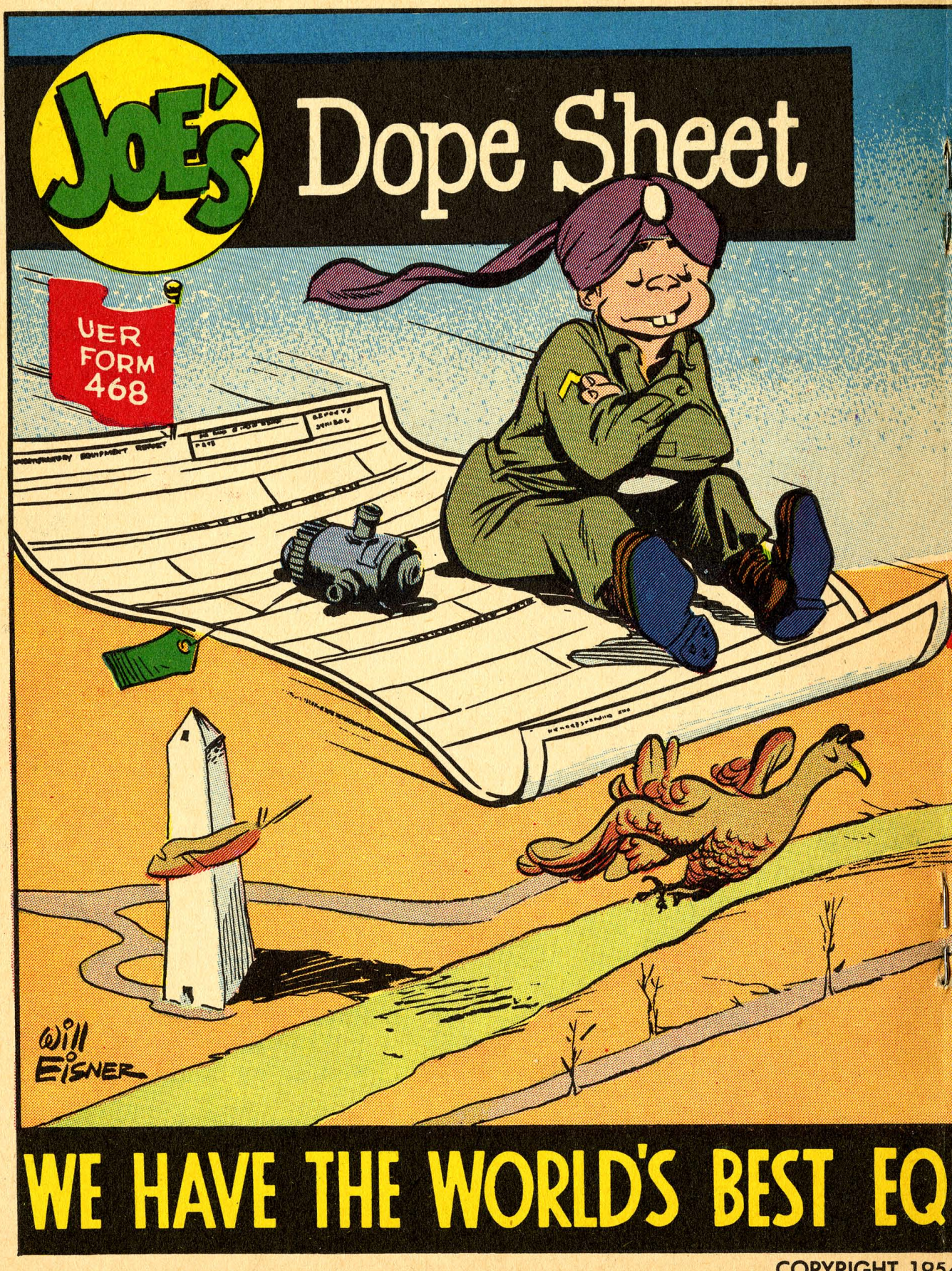

LET'S START AT THE BEGINNING, WHEN DID YOU FIRST HATE YOUR DUMPTRUCK?
WHEN THE @☆#%*!! OIL PAN BLEW OFF FOR THE THIRD TIME!


THAT'S NO REASON TO GIVE UP...WHY EVEN THO' YOUR VEHICLE HAS HAD THE BEST OF ENGINEERING, A LOT HAPPENS TO IT IN THE FIELD. IT'S YOUR IDEAS FOR IMPROVEMENT OR REPAIR THAT MAKE THE NEXT VEHICLE YOU GET BETTER!!

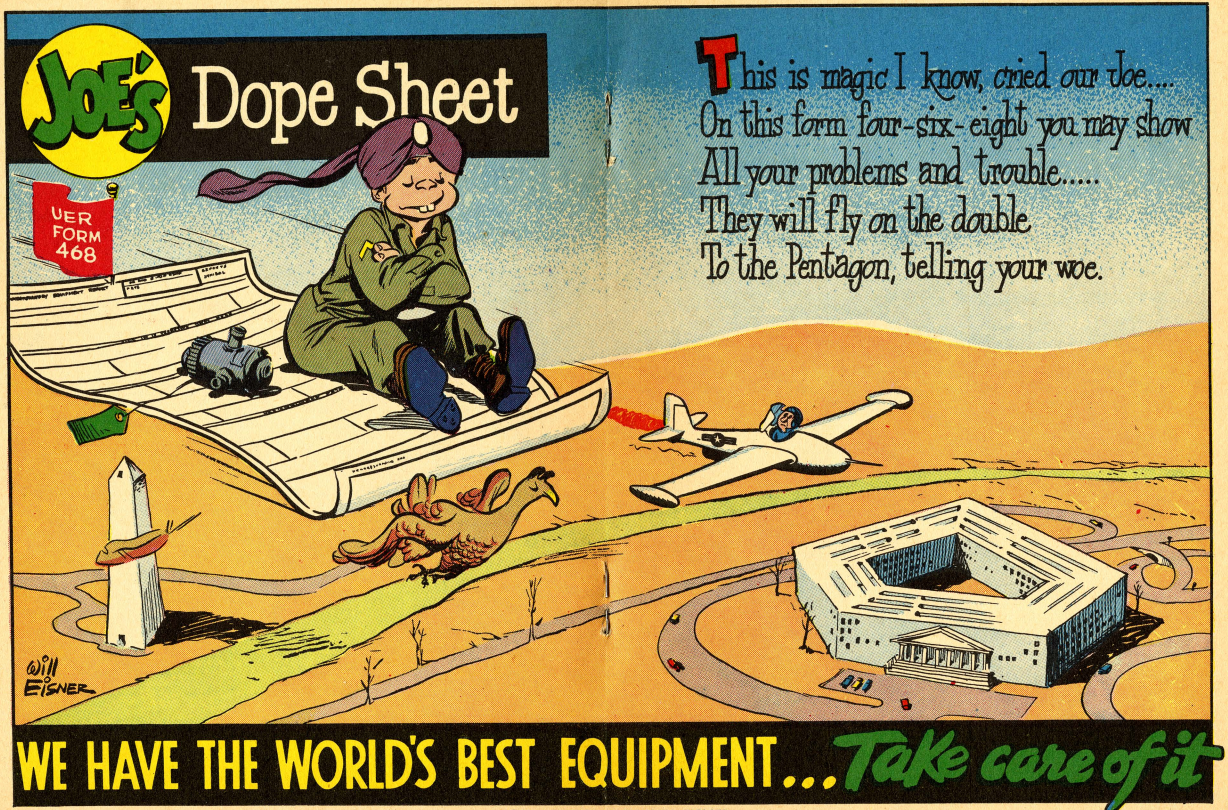

I GOT LOTSA IDEAS...BUT, WHO'LL LISSEN TO ME... A MERE CRABGRASS PRIVATE!
...WHY MAN THE WHOLE TOP LEVEL OF THE ARMY WILL LISTEN... THAT'S WHY DA FORM 468 WAS BORN ...NOW LET'S FILL ONE OUT TOGETHER.


FIRST
HOW DO YOU ADDRESS IT?
DEPENDS ON THE KIND OF EQUIPMENT....ORDNANCE OR ENGINEER'S, ETC.
UNSATISFACTORY EQUIPMENT REPORT
(SR 700-45-5)
DO NOT FILL IN THE TWO SPACES BELOW
DATE
REPORT NUMBER
REPORTS CONTROL SYMBOL CSGLD-247
INSTRUCTIONS - Although this form should be as complete as possible, no attempt should be made to fill in all boxes nor the sections which are not applicable. Photographs and/or sketches should be forwarded with this report whenever they add to the description of the difficulty.
TO:
Chief of Ordnance
ATTN: ORDFM
Washington 25, D. C.
OR
Chief of Engineers
Washington 25, D. C.
FROM: (Organization and Station)
Co. B, 401st Regt.
201st Infantry Division
Camp Atterbury, Indiana
ORIGINATING OFFICER
H. Evoton
Lt, Ord. Corps.
STATION REPORT NUMBER
AT B-13
DATE
31 Mar 54
AW, I AIN'T GOT ENUF RANK T'FILL IT IN!
Y'DON'T NEED RANK!
ANYBODY CAN FILL THIS FORM. ANY OFFICER IN THE OUTFIT CAN SIGN IT....IT'S MADE FOR EASY HANDLING!


NOMEN-CLAY-CHOOR? DUH= WOT'S THAT....WE BEEN CALLIN' THE PART, A G*#***ER!
LOOK IT UP IN ORD 7 SNL, TO BE SURE.
WHILE YOU'RE AT IT YOU CAN COPY DOWN THE PART NUMBER AND STOCK NUMBER!
DESCRIPTION OF DEFECTIVE ITEM
NOMENCLATURE OF DEFECTIVE ITEM
Engine and components
PART NUMBER
7376201
STOCK NUMBER
G744-7376201
SERIAL NUMBER
30196
MANUFACTURER
International Harvester Co.
MODEL
M51
YOU CAN GET ALL THE DOPE BELOW (EXCEPT REGISTRATION NUMBER) FROM YOUR VEHICLE DATA PLATE!
G744-8358337
M520 976
10-25-53
THIS DON'T LOOK MUCH DIFFERENT THAN THE ABOVE...
I KNOW, BUT IT'S IMPORTANT, TOO...THIS PART IS WHERE Y'TELL 'EM WHICH PIECE OF EQUIPMENT THE BUM PART CAME FROM.
IF YOU'VE GOT SEVERAL TRUCKS WITH THE SAME TROUBLE... LIST THEM, TOO, IN THE SPACE MARKED "REMARKS" ...NATURALLY, YOU'LL GIVE THE U.S.A. AND SERIAL NUMBERS, DELIVERY DATE, TIME IN USE AND MILEAGE FOR EACH...Y'CAN.
FILL IN IF DEFECTIVE ITEM IS PART OF A MAJOR ITEM
NOMENCLATURE OF MAJOR ITEM
Truck, Dump, 5-Ton, 6x6, M51
MANUFACTURER
International Harvester Co.
MODEL
M51
Y'FILL THIS IN ONLY WHEN THE BAD PART DIDN'T COME WITH THE EQUIPMENT ...LIKE A NEW CARBURETOR YOU PUT ON...
I SEE....WHICH MEANS I FILL THIS IN IF IT'S A PART THAT ACTUALLY CAME WITH THE EQUIPMENT!
FILL IN IF DEFECTIVE ITEM WAS ORIGINALLY ON MAJOR ITEM
REGISTRATION NUMBER O ITEM
5156554
SERIAL NUMBER
M-520976
CONTRACT NUMBER
DA-20-018-ORD-9197
DATE OF DELIVERY
25 Oct 53
FILL IN IF DEFECTIVE ITEM WAS NOT ORIGINALLY ON MAJOR ITEM
CONTRACT NUMBER
DATE OF DELIVERY
REQUISITION NUMBER
SHIPPING ORDER NUMBER
PURCHASE ORDER NUMBER
LOT OR BATCH NUMBER

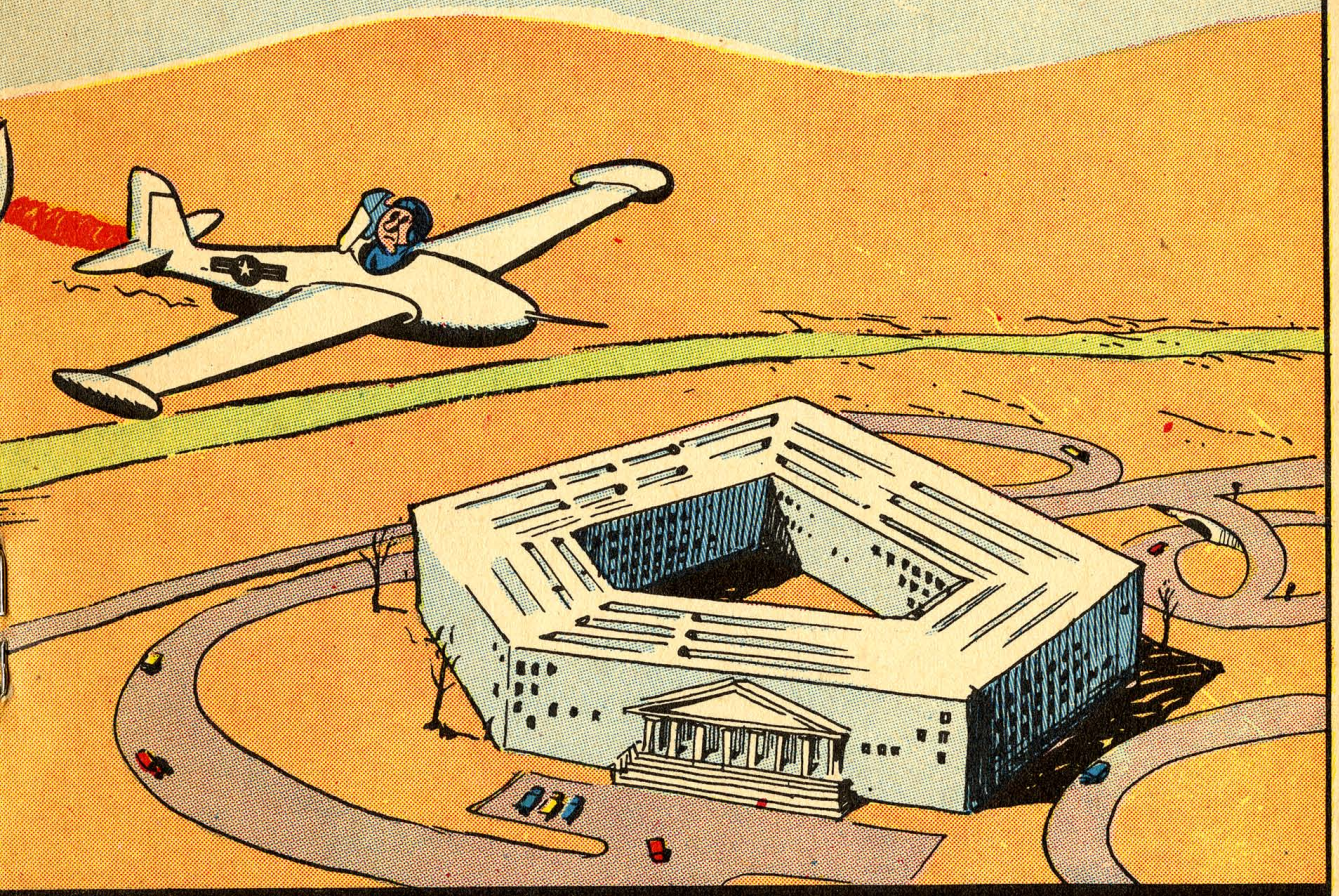



COPYRIGHT 1954



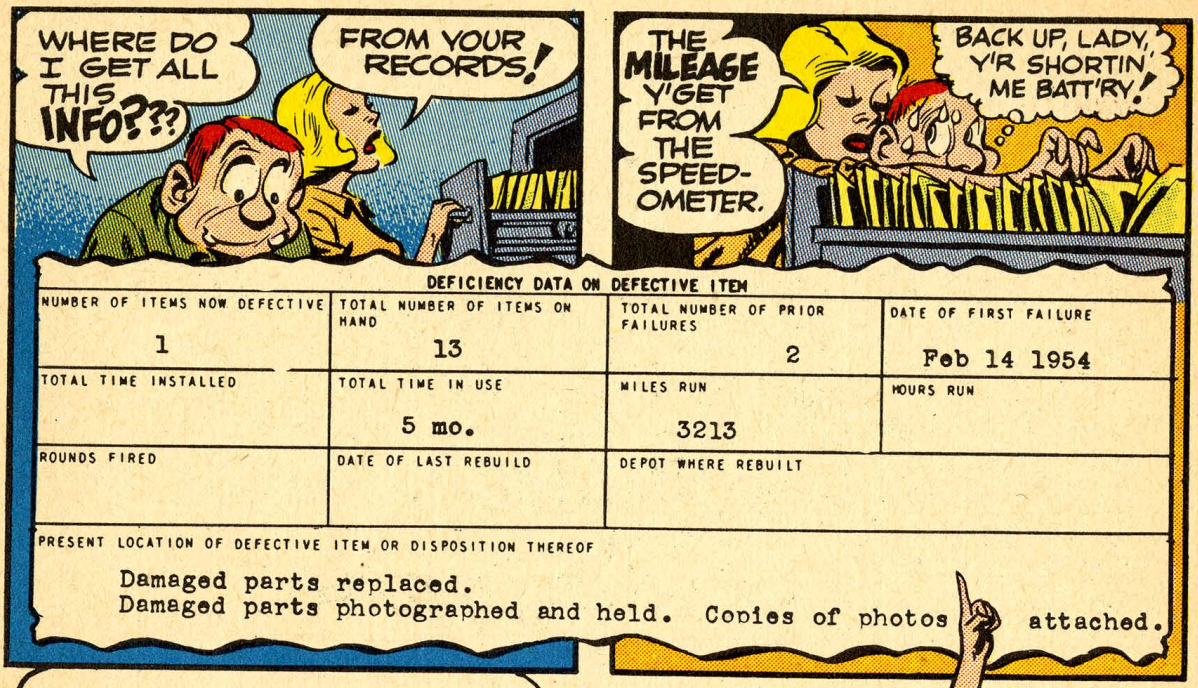

COPYRIGHT 1954 BY WILL EISNER

This is magic I know, cried our Joe....
On this form four-six-eight you may show
All your problems and trouble.....
They will fly on the double
To the Pentagon, telling your woe.



UIPMENT... Take care of it

54 BY WILL EISNER




DEFICIENCY DATA ON DEFECTIVE ITEM

| NUMBER OF ITEMS NOW DEFECTIVE | TOTAL NUMBER OF ITEMS ON HAND | TOTAL NUMBER OF PRIOR FAILURES | DATE OF FIRST FAILURE |
|---|---|---|---|
| 1 | 13 | 2 | Feb 14 1954 |
| **TOTAL TIME INSTALLED** | **TOTAL TIME IN USE** | **MILES RUN** | **HOURS RUN** |
| | 5 mo. | 3213 | |
| **ROUNDS FIRED** | **DATE OF LAST REBUILD** | **DEPOT WHERE REBUILT** | |
| | | | |

PRESENT LOCATION OF DEFECTIVE ITEM OR DISPOSITION THEREOF

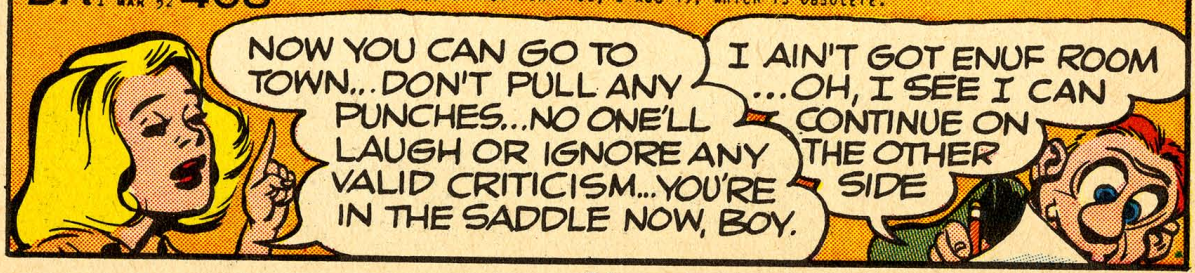
Damaged parts replaced.
Damaged parts photographed and held. Copies of photos attached.

DESCRIPTION OF DIFFICULTY AND PROBABLE CAUSE *(Continued on reverse side)*

Right side of oil pan blown out. Timing case cover blown apart. Valve covers damamged by internal explosion. Oil filler cap blown off and damaged.

Each time blow-out took place while driver was cranking the engine with the starter. The explosion took place before the engine started. Vehicle was standing around for a while.

DA FORM 1 MAR 52 468 REPLACES DA AGO FORM 468, 1 AUG 49, WHICH IS OBSOLETE.



DESCRIPTION OF DIFFICULTY AND PROBABLE CAUSE *(Continued)*

Started investigation. Found traces of carbon and soot in the oil pan vent line. Also found traces of carbon and soot and smell of gasoline in the distributor vent line and cap.
Theory is that gasoline vapors in the crankcase were forced up the vent line and into the distributor as the engine was cranked. Action of the breaker points fired the vapors and the vent lines acted as a fuse into the crankcase.

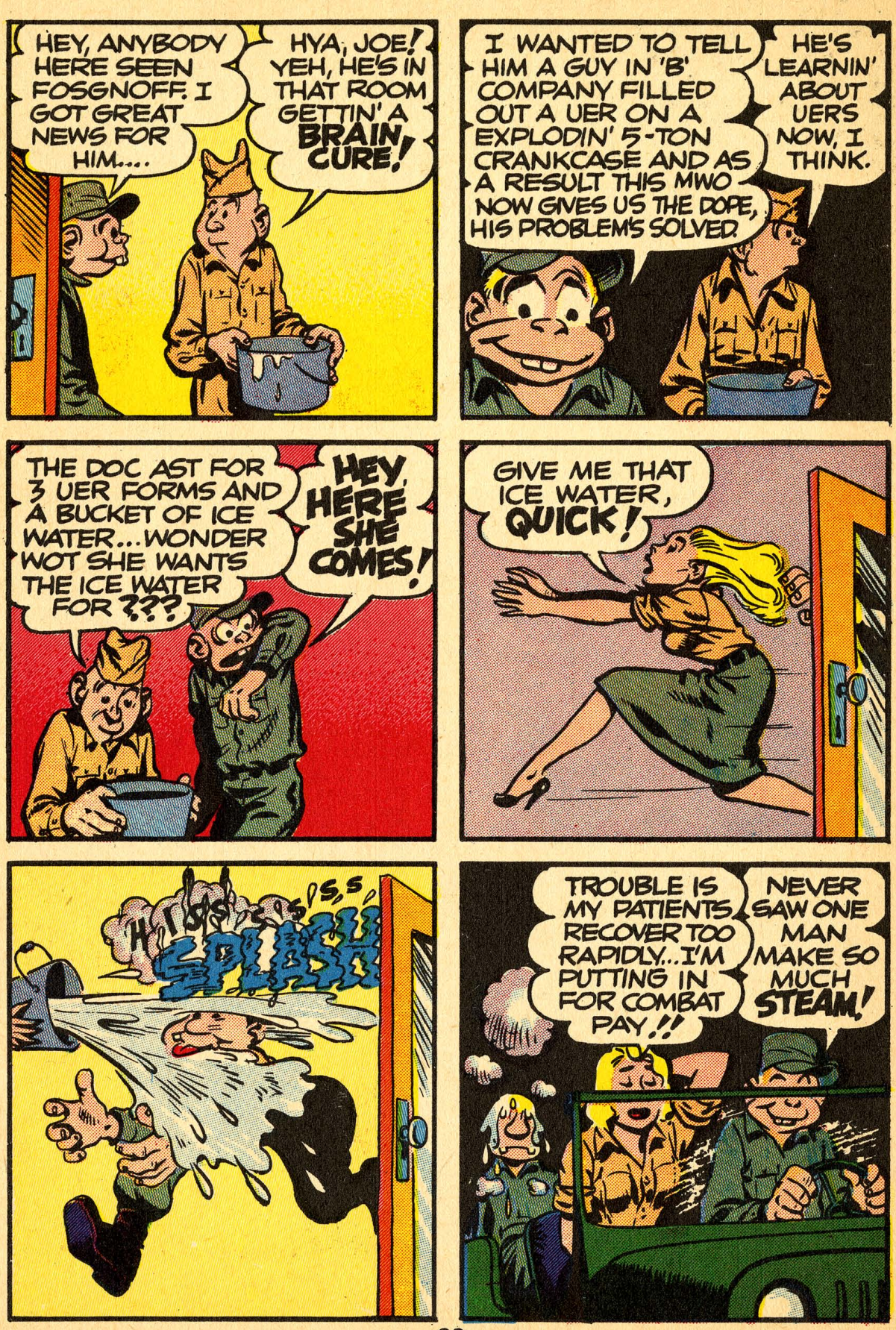
ACTION TAKEN *(Include all higher commands, other offices, and commercial concerns which have been notified of this deficiency, and include any known action taken by these to correct the deficiency or to ... the defective item or items)*

Manufacturer's representative and division Ordnance officer were notified.

RECOMMENDATIONS

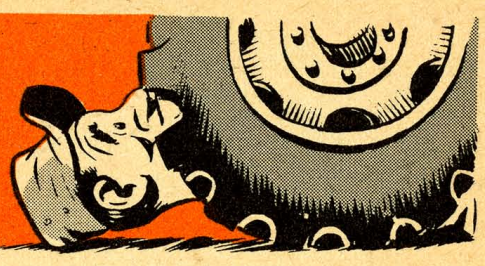
Distributor vent line be disconnected and removed from the distributor and crankcase vent line. Crankcase vent line be capped and sealed at the junction of the deepwater fording valve and distributor vent line. Distributor vent line and vent location be changed for the distributor.

REMARKS *(Include all information on identical items which is differ... contract number, etc., when more than one failure of the same natu... number.*


HEY, ANYBODY HERE SEEN FOSGNOFF. I GOT GREAT NEWS FOR HIM....
HYA, JOE! YEH, HE'S IN THAT ROOM GETTIN' A BRAIN CURE!
I WANTED TO TELL HIM A GUY IN 'B' COMPANY FILLED OUT A UER ON A EXPLODIN' 5-TON CRANKCASE AND AS A RESULT THIS MWO NOW GIVES US THE DOPE, HIS PROBLEM'S SOLVED.
HE'S LEARNIN' ABOUT UERS NOW, I THINK.
THE DOC AST FOR 3 UER FORMS AND A BUCKET OF ICE WATER...WONDER WOT SHE WANTS THE ICE WATER FOR ???
HEY, HERE SHE COMES!
GIVE ME THAT ICE WATER, QUICK!
SPLASH
TROUBLE IS MY PATIENTS RECOVER TOO RAPIDLY...I'M PUTTING IN FOR COMBAT PAY!!
NEVER SAW ONE MAN MAKE SO MUCH STEAM!

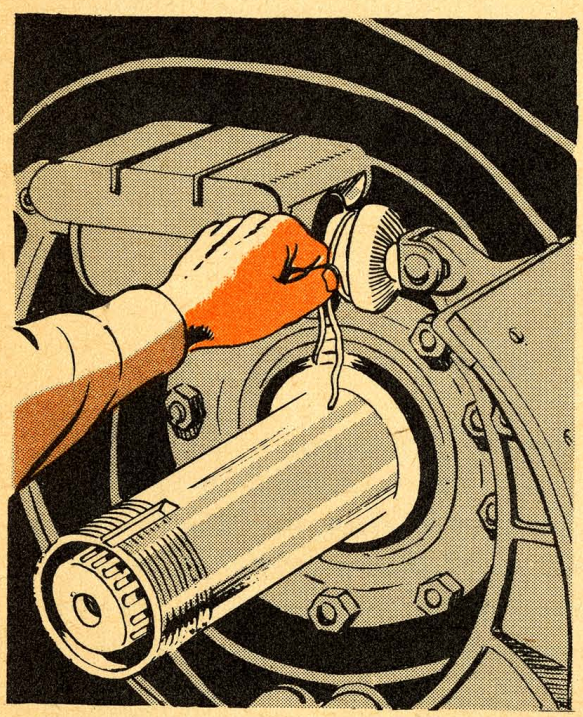
Those 5-tonners —

# NEW BRAKE–WHEEL CYLINDERS



Take an extra look at the brake-wheel cylinders on your 5-ton, 6x6, M-series trucks when you're making a replacement. Some of these trucks came off the line with larger brake cylinders on the rear wheels—and more of 'em are getting the bigger back brake-bangers now.

The larger cylinders have a 2-inch diameter body—the others have a 1-3/4-inch diameter body. The larger cylinders belong on the rear wheels, only. There isn't enough brake-pedal travel on that 5-ton for her to take larger wheel cylinders all the way around, so the smaller (1-3/4-inch) cylinders stay on the front wheels.



FOR A QUICK CHECK OF THE DIAMETER WRAP A PIECE OF STRING AROUND IT AND MEASURE THE STRING. IF THE STRING MEASURES 5-1/2", THE DIAMETER IS 1-3/4". IF THE STRING IS 6-1/4", THE DIAMETER IS 2". YOU'LL HAVE TO SLIP THE BOOT BACK AND HAVE SOMEBODY HOLD THE BRAKE PEDAL DOWN WHILE YOU WRAP IT.

You'll find that larger cylinders on the rear wheels will make your braking easier, especially with a full payload. They'll do a little more of the work for you. But don't stampede to the supply window 'cause the 2-inch cylinder assemblies aren't available in stock—yet.

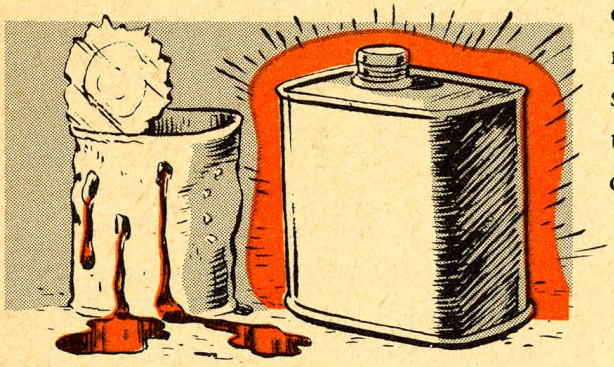
Your problem is being sure that what you've got now doesn't get all switched around. If you already have the 2-inch cylinders on the rear wheels, you might have to use a 1-3/4-inch assembly (Ord Stock No. G102-0201760) job for a replacement. If you do, take care of both ends of the axle. On the same axle, you want the same size cylinder on the left as you've got on the right; else you might find yourself side-slipping into the nearest ditch when you stomp the brakes. You want the 2-inch jobs on the back if you can get 'em, tho'.

And if at any time you feel uneven braking on your rear wheels, better pull off the wheels and check to see if somone else didn't mix the cylinders already. You can tell the difference by their outside diameters.

## SCREW-TOP CANS NEEDED

*Dear Half-Mast,*

*We now get our recoil oil in sealed cans. You gotta punch or cut a hole in the can to get at it.*



*Lots of times we have oil left over after servicing our guns. We're always told to keep the left-over oil in a good tight clean can so's it doesn't get contaminated. Don't know how we're going to do it if we don't have screw-top cans like the oil used to come in. What would you suggest?*

*H. J.*

Dear H. J.,

You're darned right. You need a clean can with a screw top for that extra oil. You can't afford to be taking chances when it comes to recoil oil.

You may not be authorized to order out of SNL F-342, but there's a potentiometer oil-filling can (Ord Stock No. F342-7621224) listed in it that'll do the job.

Fill out a special requisition giving complete justification as to why you need the can. Give the description and stock number. Turn this requisition in to Ordnance and you'll have a good chance of getting it.

*Half-Mast*

## SOS . . .— — —. . . M33

*Dear Half-Mast,*

*I've been ordering parts for my M33 fire-control system out of a T33 system catalog. True, a lot of the parts are exactly the same but there's one catch—what about the parts that aren't?*

*When I send out for a part using the number stamped on the M33 system part—whammo, it either comes back substituted with a T33 part which doesn't fit or due-out or canceled because it can't be identified.*

*Can you help?*

*WOJG A. D. S.*

Dear Mr. A. D. S.,

New Ord 7 and Ord 8 catalogs for the M33 system should be hitting the field before many moons. But you should get an information copy soon. They'll be supplied to the M33 detachments before the official copy is printed.

Try this system in getting your parts: Give all the dope you can about the item to be replaced (drawing number, etc.), then add this notation to your requisition: "This unit is for M33, Serial No.——, and is not to be replaced by Stock No.—— as used in T33."

This way you won't get the place cluttered with T33 parts you can't use.

Half-Mast

## M215 DUMP'S DOIN' ALL RIGHT

*Dear Half-Mast,*

*We average only 4.2 miles per gallon of gas on our M215 GMC dumps and have to pour a quart of oil in the engine every 126 miles. Being an old ex-civilian truck driver, this seems like too much.*

*I would also like to know whether there's a TM for the M215 and what its number is.*

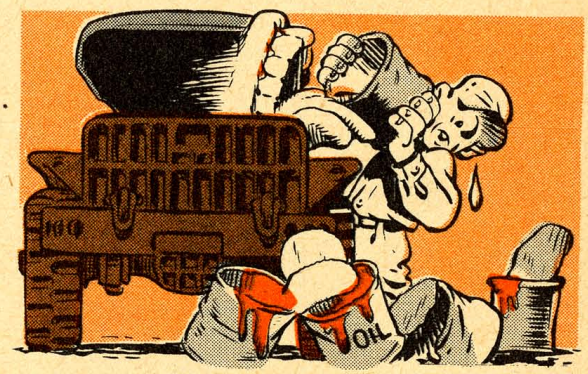
*Sgt N. G. P.*

Dear Sgt N. G. P.,

Don't let that gas mileage worry you —that's about average for tactical-type trucks. If you can get more out of it, put yourself in the good-driver class.

The first GMC's were a little hard on oil. Later models have a new-type steel oil-ring in the piston set-up which is cutting down on oil used.

How about having the valve guides checked for looseness. Have the vent system checked to see if it's working right. Both of these babies will eat oil if they're not in apple-pie order.




I've been told that a revision of TM 9-819A, now in process, is supposed to give you the latest info on the M215 hydraulic dump system. That revision is to be released as TM 9-8024. On the basic vehicle you can use the same TM's and SNL's that are used for the M135.

Half-Mast

## DASH IT?

*Dear Half-Mast,*

*A question has come up on the stenciling of tire pressures on vehicles. In the past we've stenciled the correct tire pressure on the dash and above each wheel including the spare. I understand*

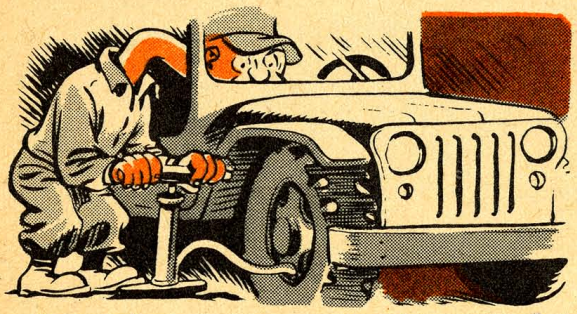
*that Ordnance inspectors no longer require this since the correct pressure is marked on the dash at the factory. What have you got on this?*

*CWO J. E. T.*

Dear Mr. J. E. T.,

Most of your M-series vehicles have the tire pressure stamped in a data-plate on the dash, so stenciling them isn't required.

But, if you come across some vehicles that don't have the pressure stamped on this plate, check the vehicle TM for the right pressure. Then by all means (if your local command permits) stencil the tire pressures where the driver can't miss 'em.



Some tire pressures might be changed before long. Keep a sharp ear and the ol' weather eye open for this. PS Magazine will give with the news when this happens, and then stencil 'em on.

*Half-Mast*

## ONE FOR THE BOOK

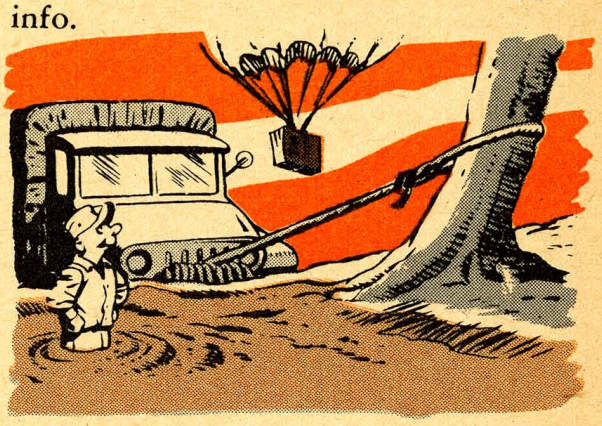
*Dear Half-Mast,*

*The governor, that puts the whoa on my M62 wrecker's rear-winch, needs replacing. But I don't know what to ask for. Could you give me its stock number?*

*Pvt O. B.*

Dear Pvt O. B.,

You probably haven't seen Ord 9 SNL G-744, dated January 1954, on who's what for your M62's winch and boom. It's out with the latest supply info.



Whiie Ord 7 of that SNL for organization maintenance is in the works, it'll take a little while until you see it in print. Meantime, get the governor you need by asking for Valve, governor, assy (at power divider), Ord Stock No. G744-8327440.

*Half-Mast*

## FRAMED DRAIN-PLUG

*Dear Half-Mast,*

*To leave the M38A1 flywheel's drain-plug out of its hole is a swell idea. But why not store it near the flywheel instead of in the map compartment?*

*There's a 7/8-inch hole in the 'A1's frame near the flywheel housing that can be made to hold it. Just tapping the hole with a pipe plug will make it for-when-necessary. And if you stencil the info on the frame to tell the next guy what's what and where, everybody'd be set. It's handier that way.*

*Pvt L. L. J.*

Dear Pvt L. L. J.,

What you say has its point. But—what about the guy who doesn't know and looks for the plug in the map compartment? He'd probably hunt up a new one before looking under the vehicle. (And cuss your hide when he finds the one you stashed away.) And unless the threads are protected right, the plug could rust in its tracks. Pipe plugs rust easily and could set so tight you'd wish you'd let it alone.

*Half-Mast*

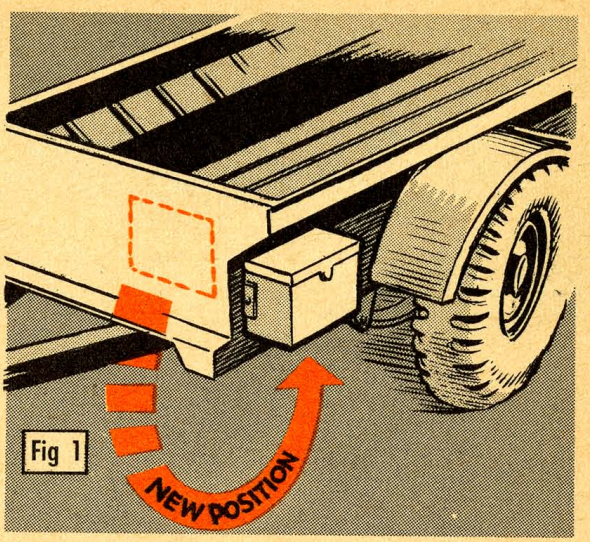
## STOWAGE BOXES

*Dear Half-Mast,*

*I'm purple in the face from trying to tell these punkin' heads not to back their vehicles into the stowage boxes on the 1/4-ton M100 trailers.*

*It does no good—so we get battered boxes. I've thought about putting a bar around the box, but they would only bend that too. So what do you think about moving the box around to either side (Fig 1)?*

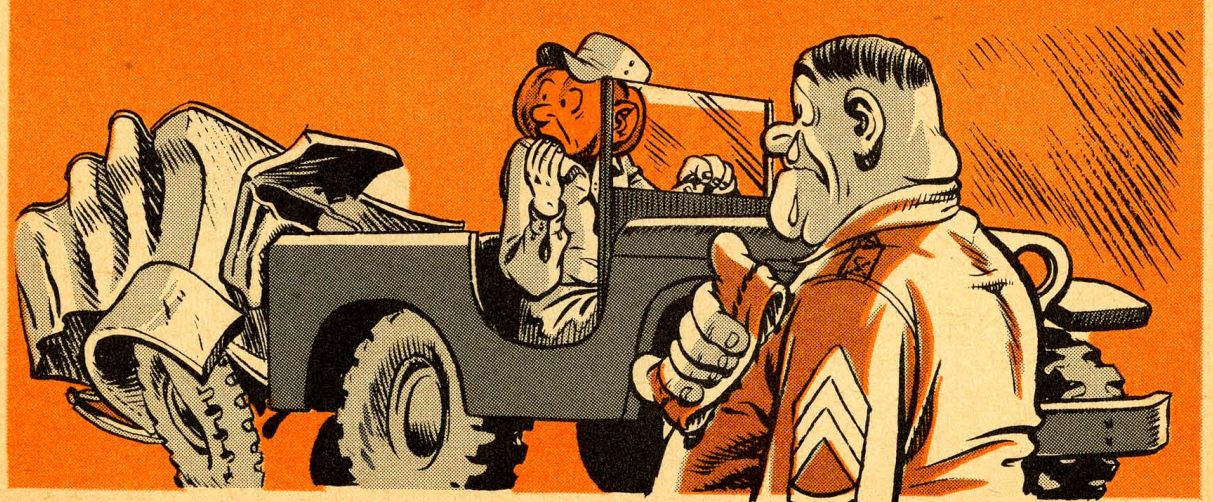
*SFC L. L. H.*



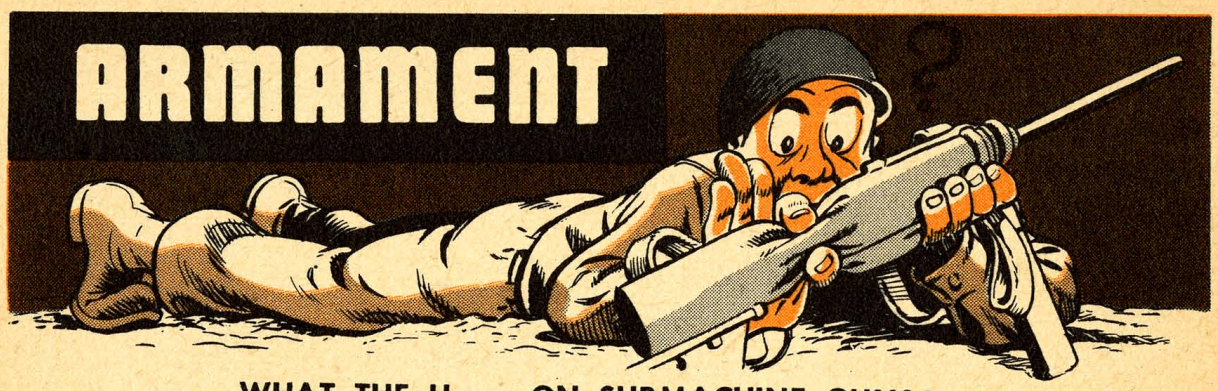

Dear SFC L. L. H.,

Sounds like a good idea to move these boxes to the side, but first be sure to get an OK from your Ordnance officer before you do. He'll buy any good idea if it's gonna save Uncle some dough.

The boys had better take care of those boxes, 'cause once the supply's gone, that's it. This box is not being made any more, according to TB 9-871A-2 (8 Mar 54).



# ARMAMENT



## WHAT THE H--- ON SUBMACHINE GUNS?

Do ya' wanna hear a hard tale? There was a soldier who took his pop-gun in hand. It wouldn't pop. Why? It was too soft. How could he tell? There was no *H* stamped on his sliding mechanism like MWO Ord A58-W3 (12 Sept 51) says the bolt in every M3 and M3A1 .45 cal. submachine gun should have (Fig 1).

The soldier picked up his gun and looked at the bolt—and sure 'nuff, there was no *H* and he knew it wasn't the hard type. So he simply turned in the bolt for a new one.

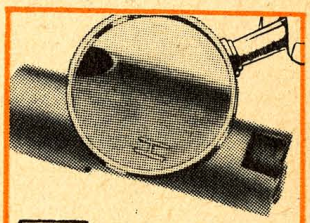


Fig 1

The story should end but there's more . . . the new one he got still didn't have the *H*. Big question was . . . is it hard or no?

Now what did he do? He could have turned that bolt in pronto . . . kept on trying for one with an *H*, but did he do it? No. He started thinking—maybe those bolts are being made now without the *H* stamped on them. Well, he would find out. He picked up his little file and tried to make a dent at the sear notch (Fig 2). Do you think he did? He did not. He had a hard bolt.

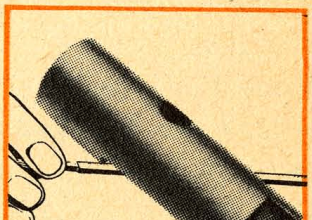


Fig 2

Now if he'd had an old-type soft-metal bolt he could have made a dent in it with his little file.

The moral to this story is: If yours is hard, keep it and use it—there's a lotta life in that thing regardless of the *H*. Just test it.

## KEEP YOUR TEETH CLEAN

The teeth that lock the legs tight on your machine gun and recoilless rifle tripods need care. Loosening the leg enough to let the teeth pull away from one another (Fig. 3) when you're making an adjustment does the trick. If you move the leg with the teeth hitting one another, you'll burr them. Chances are your gun'll squat on you when you need 'er most.

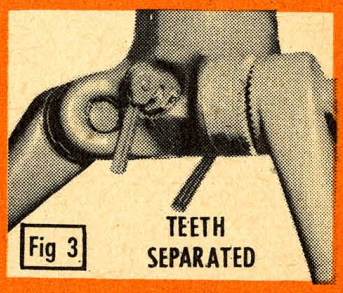
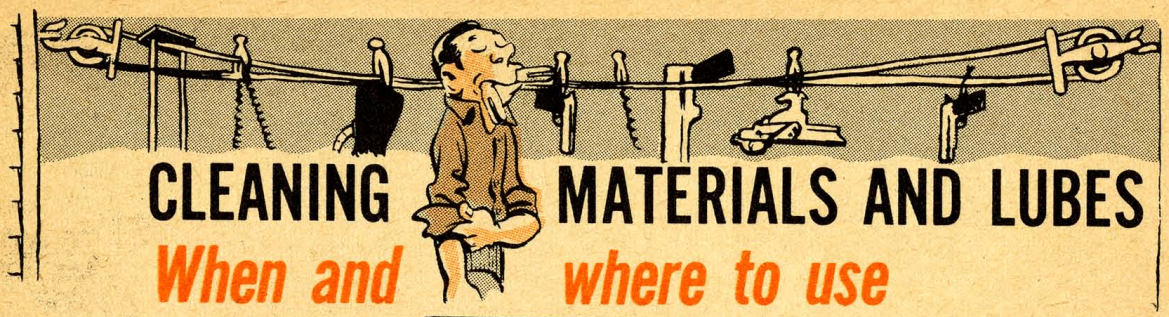



Fig 3



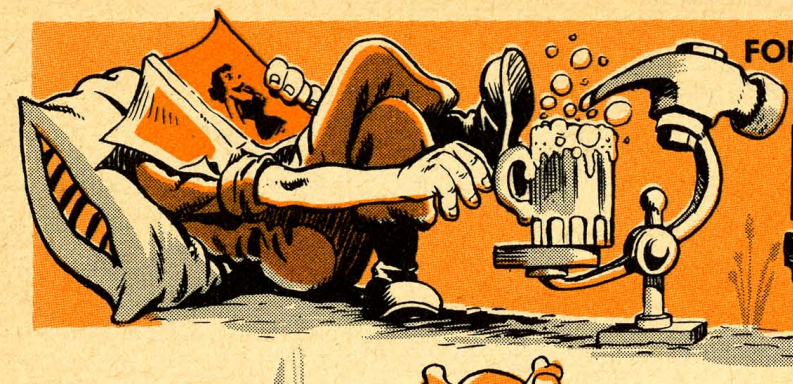
# CLEANING MATERIALS AND LUBES

## When and where to use

| | ON SMALL ARMS | | | | | | |
|---|---|---|---|---|---|---|---|
| | .45 Cal. Pistol | .30 Cal. Carbine, .30 Cal. M1 Rifle and .30 Cal. Bolt Action Rifle | .45 Cal. Submachine Gun, .30 Cal. Browning Auto. Rifle and .30 Cal. Machine Gun | .50 Cal. Machine Guns | Recoilless Rifles | Mortars | Ordnance Stock Numbers |
| Water | A | A | A | A | A | A | |
| Soap & Water | A | A | A | A | A | A | |
| Bore Cleaner | A | A | A | A | A | A | 51-C-1313-392 (2 oz), 51-C-131-396 (6 oz)<br>51-C-1313-400 (1 qt), 51-C-131-405 (5 gal) |
| Oil | CD | CD | CD | CD | CD | CD | Spec. 14-0-2833-992 (2 oz), 14-0-2833-994 (4 oz)<br>14-0-2834-10 (1 qt)<br>Med. 14-0-2833-105 (2 oz), 14-0-2833-120 (1 qt)<br>14-0-2833-125 (5 gal), 14-0-2833-155 (55 gal) |
| Patches | A | A | A | A | | | 2-P-600-40 (Pacific theater)<br>2-P-600-20 (All others) |
| Solvent | E | E | E | E | E | E | 51-S-4717-725 |
| Cloth or Waste | B | B | B | B | A B | A B | 27-C-2684-880 |
| Cloth Bore Cleaning | | | | A | | | 27-C-923 |
| Crocus Cloth | B* | B* | B* | B* | B* | B* | 42-C-20420-50 |
| Grease | | C | | | | | 14-G-1435-910 |

A—To clean bore
B—To clean weapon (other than bore)
C—To lubricate
D—To preserve (short term)
Med. wt. oil for above 32°F and salt water
Spec. wt. oil for below 32°F
E—To clean after storage

*Crocus Cloth is used only by the armorer artificer and weapons' repairman



FOR BETTER CONTROL OF YOUR

# FIRE CONTROL

## POISON FUMES

With everything going right, the selenium rectifiers in your M33 fire-control system won't bite.

But if you have circuit or rectifier trouble and the rectifier blows its top—watch out.

When these rectifiers get into trouble, they might give off with selenium dioxide fumes—**danger**—poison.

Don't breathe these fumes—ventilate the rectifier compartment thoroughly before you go to work on the rectifier chassis.

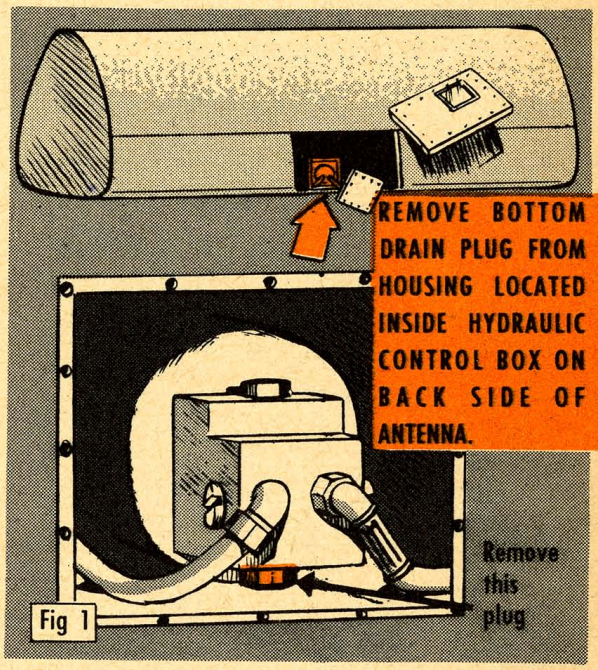
And by all means, don't handle the damaged rectifier while it's hot. You can absorb this selenium compound through the skin and get poison in your system. Or, if you have a skin opening it will set up a sore that just won't heal.

Be careful, fella—

## IT'S ONE OUT OF FOUR

The M33 fire-control system uses a hydraulic-fluid pump with its hydraulic-elevation scan system in the acquisition antenna.

There's a drain plug on the lower side of the pump (Fig 1) that should be removed—if it hasn't been.




If this plug is left in, fluid will collect around the wiring inside the pump and play heck in general.

The other three plugs stay put.

Better check that spare hydraulic-fluid pump at the same time and remove the same plug.

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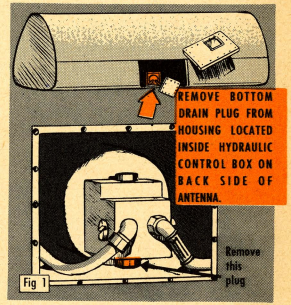


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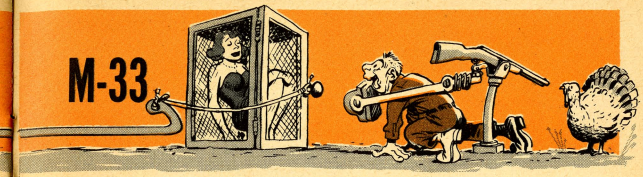


# M-33

## WHEN THE DEEP PURPLE GLOWS

When cold weather starts to creep in, keep an eye on those 393A rectifier tubes in your M33 fire-control system.

To keep those tubes on the cool side in warm weather a blower was added to the low-voltage power supplies to shoot air on the 393A's. Does a good job in the summer but, when the air turns cold, the blower might cool 'em down too much at the start and not let 'em warm up.

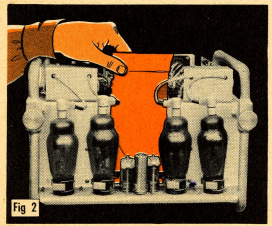
When you turn power on, keep an eye on those tubes. If the color in the tube is a deep purple—you've got a cold tube.

Get a piece of cardboard and use it as a deflector (Fig 2) at the blower outlet. This'll cut the air off the tubes and let 'em warm up.

Watch the tubes. When they get to glowing a fuzzy blue, take the cardboard away from the blower. You've got to be careful here. If you let that cardboard deflect the cold air too long those tubes can get hot enough to melt.

The reason you worry about getting that tube to the proper warmth is this:

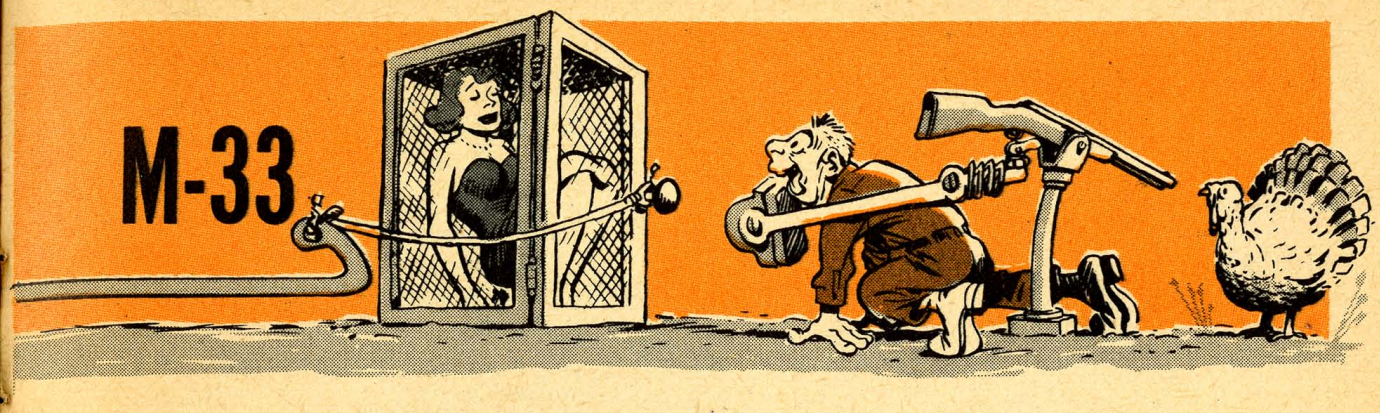
The tube's got to be warm enough to vaporize the mercury in it and get it off the tube elements. If the mercury stays on the tube elements, and the tube goes into operation, there will be an arc-over. This arc-over will either blow or seriously damage the tube.




### IT CAN DO WITHOUT IT

Stop worryin' yourself to a frazzle. That grease fitting you can't reach on your M33's personnel-blower motor doesn't have to be reached.

The motor has sealed bearings that don't need your grease.

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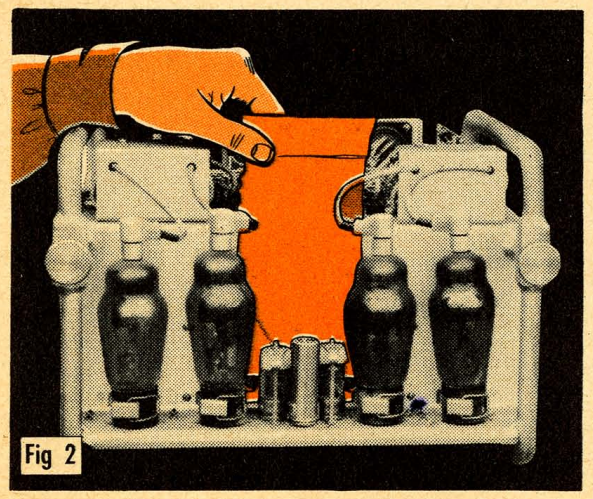
Fig 2

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**WHEN YOU GOTTA GO . . .**

. . . and the temperature's low . . . be sure your vehicle's ready to take you.

Be prepared for Old Man Winter with cold-weather equipment. Now's the time to check on that personnel-heater kit, power-plant heater kit, and hard-top closure kit. If ya' need 'em and rate 'em, get 'em.

Just to make it easier for you—you'll find the Ordnance stock number of kits for the more popular vehicles listed below. And SB 9-16 tells you when and where you can get 'em.

| M-Series No. | VEHICLE | PERSONNEL-HEATER KIT Ord Stk. No. | POWER-PLANT HEATER KIT Ord Stk. No. | HARD-TOP CLOSURE KIT Ord Stk. No. |
|---|---|---|---|---|
| M38 | 1/4-ton, 4x4, Utility Truck | G249-5701365 | G249-5701366 | G249-5701367 |
| M38A1 | 1/4-ton, 4x4, Utility Truck | G249-5701729 | G249-5701730 | G249-5701731 G249-5701804 Canvas Closure Kit (this includes side curtains) |
| M37 Series | 3/4-ton, 4x4, Truck | G249-5701369 | G249-5701370 | G249-5701371 |
| M133 Series (M135, M211) | 2-1/2-ton, 6x6, Cargo Truck | G249-5701464 | G249-5701465 | G249-5701466 |
| M44 Series (M34, M35, M47) | 2-1/2-ton, 6x6, Cargo Truck | G249-5701356 | G249-5701357 | G249-5701443 |
| M109 and M220 | 2-1/2-ton Basic 6x6, Shop Van Truck, (Van Kits Only) for -40°F Only. | G249-5701666 | ..... | G249-5701775 Air-Filter Kit* |

| M-Series No. | VEHICLE | PERSONNEL-HEATER KIT Ord Stk. No. | POWER-PLANT HEATER KIT Ord Stk. No. | HARD-TOP CLOSURE KIT Ord Stk. No. |
|---|---|---|---|---|
| M109 and M220 | 2-1/2-ton, 6x6, Shop Van, Truck (Van Kits Only) for -65°F. (Not good unless installed in conjunction with G249-5701666) | G249-5701774 | ..... | |
| M39 Series (M41, M51, M52, M62) | 5-ton, 6x6, Cargo Truck | G249-5701468 | G249-5701469 | G249-5701443 |
| M76 | Cargo Carrier | G249-5701717 | ..... | G249-5701718 Accessories Kit** |
| M8E2 | Cargo Tractor | G249-5701777 | G249-5701627 | ..... |

*Air-Filter Kit—Order separately for desert or dust control usage.

**Accessories Kit—Consists of:

1. Battery jumper cable
2. Engine warm-up ducts
3. Cargo seat cushions
4. Glass windshields
5. Blanket assembly

## KITS FOR AUSTERITY-TYPE VEHICLES

| M-Series No. | VEHICLE | SLAVE-RECEPTACLE KIT Ord Stk. No. | ENGINE-PRIMER KIT Ord Stk. No. |
|---|---|---|---|
| M38 | 1/4-ton, 4x4, Truck | G249-5701812 | G249-5701813 |
| M37 Series | 3/4-ton, 4x4, Truck | G249-5701812 | G249-5701814 |
| M44 Series | 2-1/2-ton, 6x6, Truck | G249-5701812 | G249-5701815 |
| M133 Series | 2-1/2-ton, 6x6, Truck | G249-5701812 | G249-5701816 |
| M39 Series | 5-ton, 6x6, Truck | G249-5701812 | G249-5701817 |

If the kit you need isn't listed above, just write to Sgt Half-Mast and he'll get the dope for you, pronto. Stock numbers and dope on the latest winterization kits are supposed to be included in a revision of SB 9-16 now in the works.

# THE SCOOP

HERE'S A LIST OF ADDITIONAL OFFICIAL PUBLICATIONS ON ORDNANCE EQUIPMENT WHICH ARE OF INTEREST TO A LOT OF YOU.

### SNL'S

**Ord 8 SNL A-55,** Sec 38, .50-cal. MG mount (6580030) and (8367286), May 54

**Ord 7 SNL A-55,** Sec 50, Truck mount, M32, M36, M36A1, M36A2, M37, M37A1, M37A2, M37A3, M50, M56, M57, M58, M59, M60, M61, May 54

**Ord 7 SNL A-61** (TO 39D-5-12), Mount, trailer, multiple, .50-cal. machine gun, M55, May 54

**Ord 8 SNL A-90** (TO 39D-5-11), Mount, machine gun, .30-cal. (7351999), May 54

**Ord 8 SNL C-69,** Gun, 90-mm, M3A2, May 54

**Ord 8 SNL C-90** (TO 39A-15A-18), Launcher, rocket, multi, 4.5-in, M21 (T123), May 54

**Ord 8 SNL D-52,** Gun 90-mm, M36 (T119E1), May 54

**Ord 8 SNL F-262,** Scope, elbow, M62, M62A1C, M62E2, May 54

**Ord 8 SNL F-276,** Sight, computing, M7A1, May 54

**Ord 9 SNL F-369,** Inverter (7633698), May 54

**Ord 8 SNL F-387,** Device, leveling (8293768), May 54

**Ord 8 SNL F-393,** Sight, bore, M37, May 54

**Ord 3 SNL G-1,** Major items, major combos Group G, Apr 54

**Ord 9 SNL G-249,** Vol 16, Winteriz equip—Winteriz kit for truck tractor 6-ton 6x6 (White); truck, prime mover 6-ton 6x6 (White), Apr 54

**Ord 9 SNL G-249,** Vol 33, Winteriz equip—Winteriz kit for M24 light tank, May 54

**Ord 9 SNL G-249,** Vol 35, Winteriz equip—Winteriz kit for M26 and M45 medium tank, May 54

**Ord 9 SNL G-253,** Gun, twin 40-mm SP M42 (T141), May 54

**Ord 7-8 SNL G-266** (TO 19-40AAB-20), Bulldozer, tractor mtg T8E4, Apr 54

**Ord 7 SNL G-749,** Truck, M135, M211, M215, M220, M217, M222, M221, Mar 54

**Ord 8 SNL G-749,** Truck, M135, M211, M215, M220, M217, M222, M221

**Ord 7 SNL G-758,** Truck, ambul, front-line, 1/4-ton, M170; truck, 1/4-ton, M38A1, May 54

**Ord 6 SNL J-7,** Sec 2, Tool set, organiz maint (2d-ech) Set No. 1, Sup (41-T-3538-865), May 54

**Ord 6 SNL J-7,** Sec 5, Tool set, organiz maint (2d-ech) Set No. 4 block-tackle (41-T-3545-13), May 54

**Ord 6 SNL J-8,** Sec 25, Shop tool set, field maint guided miss, Corporal (41-S-2990-221), May 54

**Ord 6 SNL J-8,** Sec 26, Tool set, field maint chemi munitions safety contr, No. 1 com (41-T-3532-25), May 54

**Ord 6 SNL J-8,** Sec 27, Tool set, field maint chemi munitions safety contr, No. 2 com (41-T-3532-27), May 54

**Ord 6 SNL J-8,** Sec 31, Shop set, field maint, electronic FC systems (41-S-2990-178), May 54

**Ord 6 SNL J-9,** Sec 6, Tool set, glass cut and instal (41-T-3534-50), May 54

**Ord 6 SNL J-16,** Sec 55, Tool sets, field depot maint, for hull and susp in carr, cargo, amphib, M76 (T46E1) (SNL G-245), May 54

**Ord 6 SNL J-16,** Sec 57, Tool sets, field, depot maint for trans, Allison series TX-500 in truck, gun lifting, M249 (SNL G-268) and M250 (SNL G-268), May 54

**Ord 7-8 SNL J-17,** Vol 1, Common hand tools, May 54

**Ord 7-8 SNL J-175** (TO 17-5BFB-97), Grinder, surf, clutch plate and flywhl, Wet, diam cap 22-in (Van Norman No. 444) (40-G-167), May 54

**Ord 7-8 SNL J-270** (TO 17-5BE), Organiz, field depot maint allow for: Lathe, engine, bench type, 10-in, 20-in betw cntr (South Bend Lathe Model 187-RN) (40-L-25), Apr 54

**Ord 7-8 SNL J-332** (TO 17-5BC-74), Saw, band (mach), metal cut, vert (Continental Machines, Model DoAll ML) (40-S-570), May 54

**Ord 7-8 SNL J-353,** Dynamometer, engine run-in, Hyd self-contained, 200-HP cap (Clayton Model 125A) (18-D-1474), May 54

**Ord 7-8 SNL J-473** (TO 17-5BFB-96), Grinder, crankshaft, 22x84-in, 36-in diam, 12-in hole wheel, 5-HP wheel head motor, 1-HP work head motor (Van Norman, Model 111) (40-G-131-50), May 54

**Ord 7-8 SNL J-661** (TO 17-5BD-25), Machine, milling, plain, bench type (U. S. Burke Machine Tool, Model No. 4) (40-M-38), May 54

**Ord 7-8 SNL J-691** (TO 17-5BE-52), Lathe, engine, precision bench type, 8-1/2-in swing, 40-in bed (South Bend Lathe Works, Model CL187ZB) (40-L-22), May 54

### ORDNANCE MWO'S

**B28-W4,** .30-cal. carbines M1, M2, M3: New type magaz catch, May 54

**D48-W1,** 75-mm AAA gun mt T69, Jun 54

**F204-W1,** Elevation quad M1, Jun 54

**F235-W8,** Periscope M20 (T35), May 54

**F358-W1,** Periscope mt M89 (T177), May 54

**F367-W1,** Local contr sys M22, May 54

**G1-W47,** SP twin 40-mm gun T141, SP 105-mm how T98E1, SP 155-mm how T194, 76-mm gun tank T41E1, cargo tractor M8E2: Replace supercharger drive shaft brngs, Jun 54

**G260-W7,** Armored inf veh M75 (T18E1): Replace final dr compon, May 54

**G262-W9,** M47 tank: Install aux-engine hand choke, throt contr, May 54

**G262-W12,** M47 tank: Convert turret contr sys to 180-degree, M140-Mil-P-Sec sys, May 54

**G 262-W16,** M47 tank: Closing .30-cal. coax MG cover, May 54

**G-262-W17,** M47 tank: Install emerg hand-elev mech, May 54

**G-742-W5,** 2-1/2-ton dump trucks M47, M59: Hyd-hoist pump, May 54

**G742-W14,** 2-1/2-ton trucks M34, M35, M44, M45, M46, M47, M48, M49, M50, M59, M108, M109, XM275, V17A/MTQ and V18A/MTQ: Battery compartment splash guard, May 54

**G742-W15,** 2-1/2-ton trucks M34, M35, M44, M45, M46, M47, M49, M50, M59, M108, M109, M275: Sup brackets for trailer airbrake hose couplings, May 54

**G744-W7,** 5-ton dump truck M51: Hyd-hoist pump, May 54

**G744-W9,** 5-ton trucks M41, M54, M55, M64, M51, M62, M52, M246: Prevent hydrostat lock of hyd contr vlv, May 54

**G744-W10,** 5-ton Wrecker M62: Install boom opr's sfty shld, boom assy, lift eye, May 54

**G744-W12,** 5-ton trucks M40, M41, M51, M52, M54, M61, M62, M63, M64 and M139: Winch-lever lock, May 54

**G749-W15,** 2-1/2-ton trucks M135, M211, M215, M217, M220, M221 and M222: Install new lock plates on frt brk back pit blts, May 54

**G749-W16,** 2-1/2-ton trucks M135, M211, M215 M217, M220, M221 and M222: Remove revrs clutch rels spg, retain wash, May 54

### TB'S

**9-718A-6,** M47 tank: Alter mnt brkt model C-663/VIA-1 phone cntrl box, May 54

**9-718B-1,** M48 tank (T48); flame thrower T67: Adjust trk tension, May 54

**9-772-9,** Crgo carrier M29, M29C: Install new type transmsn assy, May 54

**9-804-14** (TO 19-75AA-152), 1/4-ton truck M38: Identify spdomtr flex shft assy by vhcle serial nos, Jun 54

**9-819A-15** (TO 19-75CAC-31), 2-1/2-ton trucks M135, M211, M215, M217, M220, M221, M222: Remove nibs frm transmsn shift lever, May 54

**9-837-5** (TO 19-75AA-137), 5-ton trucks M41, M54, M64, M51, M62, M40, M61, M63, M139, M52, M246: Prevent clutch fail, May 54

**9-840-15** (TO 19-75AA-153), 3/4-ton trucks, M43, M37, V-41 ( )/GT, M201, M56, M42, M152: Install new bolts univsl jnt flnge yokes, companion flngs, Jun 54

**9-1730F-1,** GMC aux eng model A41-1: Magneto timing, Dec 53

**9-2855-25,** Instruct install pwr-plnt heat-kit for MG mnt M45C of trlr mnt M55, mnt M45F of mtr carr M16A1 (12 V) (SNL A-61), Apr 54

**9-3027-1,** 75-mm gun T83E6, T83E7 on mt T69: Inspect, alter breech interlk (7305286), May 54

**ORD 512,** MT fuzes M43 series, M61 series, M67 series, MTSQ fuzes M500, M500A1, M501, M501A1, M502: Torque test, readjust, Jun 54

**ORD 522,** Mech time fuzes, HE proj, 90-mm, 120-mm AA Wpns: Procedure assmlg sep issued fuzes proj, Jun 54

**ORD 558,** Vehls using AOS-895-3, AO-895-4 Continental Eng: Proced prior starting eng, May 54

**ORD 559,** Tact trns veh: Interchng 6TN batteries, fabricat batt-batt jump cbl, May 54

**ORD 560,** 1/4-ton trucks M38, M38A1: Revise tire press on svce data-plate, May 54

### TECHNICAL MANUALS

**9-3060,** 762-mm trk-mntd rckt lnchr XM289, Feb 54

**9-6041,** 'Scope mnt T181, Apr 54

**9-6117,** Periscope M8A1 w/'scope M39A2, Apr 54

**9-8662,** Fuel-burning htrs, winteriz equip, Mar 54

**9-8812,** 37-passngr bus (ACF-Brill Model C37M), Mar 54

**9-9060-1,** Oxy-acetyl fire air-opr metal spray gun, May 54

### MISCELLANEOUS

**SB 9-40,** Ord mtr veh assys, May 54

**LO 9-7218,** Gun, twin 40-mm (T141) M42, Mar 54

**LO 9-8006,** Trk, gun lift, hvy, front, M249, rear, M250, Mar 54

**LO 9-8212,** Trlr, pole hndlg, Crgo, 3-1/3-ton, 2-whl, V13/GT, Mar 54

**FT 120AA-A-1,** Gun, 120-mm antiair, M1 series firing shell, HE, M73 w/FCS, M33D, mnt, M1A2, Mar 54

**Ord 5-3-6,** Price guide ammo, May 54

**Ord 5-3-8,** Price guide K-Group mtl, May 54

**Ord 5-3-9,** Price guide L-Group mtl, May 54

**Ord 5-4-1** through 5-4-11, Cross-ref list—Ref symbls A-ZZ, ref No. 1 through Stock No. XXX Y022-8007308, Apr 54

**Ord 5-5-1** through 5-5-9, Cross-reference list—Stock No. 41-B-556600 To Stock No. Y022-8007367, Apr 54

## MORE POWER TO AIR TOOLS

Whatever your pneumatic tool can do, you can help it do better—if you remember that there's a pressure drop of 5-pounds for every 50-foot length of hose latched on to the air compressor.

So—for a better punch, spray, cut, drill, dry (or what-have-you) job, make sure all unneeded lengths of hose are uncoupled before flipping the switch on your pneumatic tool.

## YOUR DOZER'S HOSE

The high-pressure hoses used between the hydraulic cylinders and the oil pipes of a hydraulic dozer take an awful lot of punishment. They're made to handle high pressures and all the twisting, turning and stretching that come from following the motions of the blade.

And one of the most important things needed to help this tough hose stand up under this rugged work is proper size and installation. A hose that's too short suffers quick damage from added strain and binding. And a hose that's too long wears where it sags and interferes with other moving parts.

To make sure hose replacements on your dozer are the safest length, check the dozer's manual.

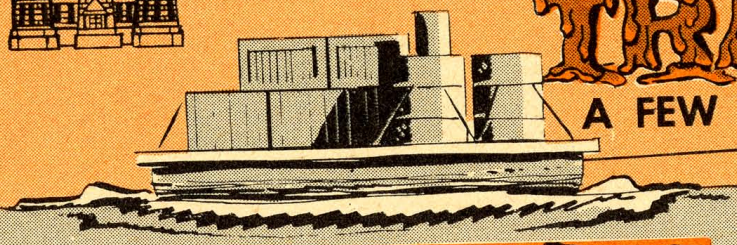
Proper assembly of the hose is just as important as using the right length. To eliminate all unnecessary binding, twisting and stretching, the hose has got to be free and unstrained when the attaching nuts are tightened.

## KNOW YOUR SR

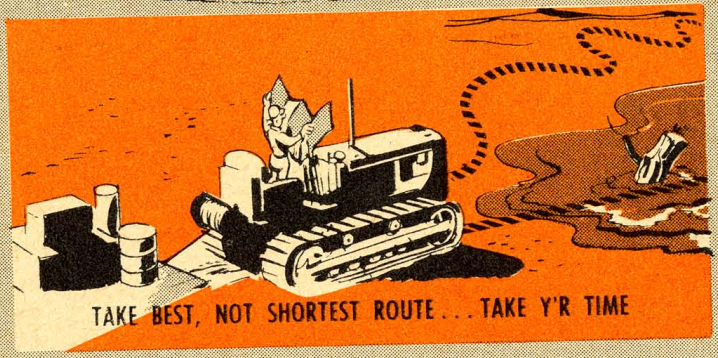
Change 1 to SR 310-20-25 dated 18 May 1954 (your new "Index to Engineer Supply Manuals") is out . . . so get yourself a copy. The SR itself is dated 15 February 1954, and supersedes Part II, Part III, and Part IV of your Eng I catalog. The only part of Eng I that's still good is Part I, the "Introduction".

# TRACKS IN

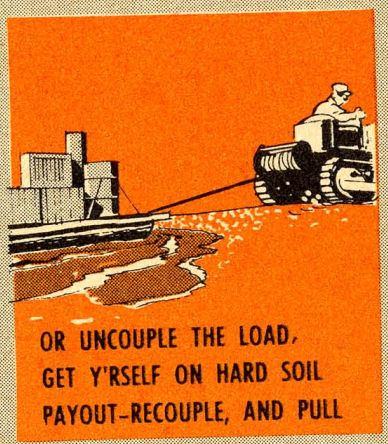
## A FEW TRICKS TO AVOID

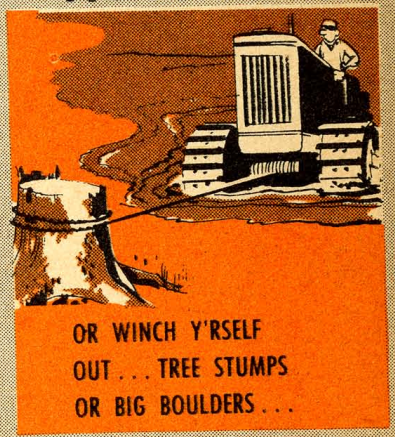


## WHEN WORKING

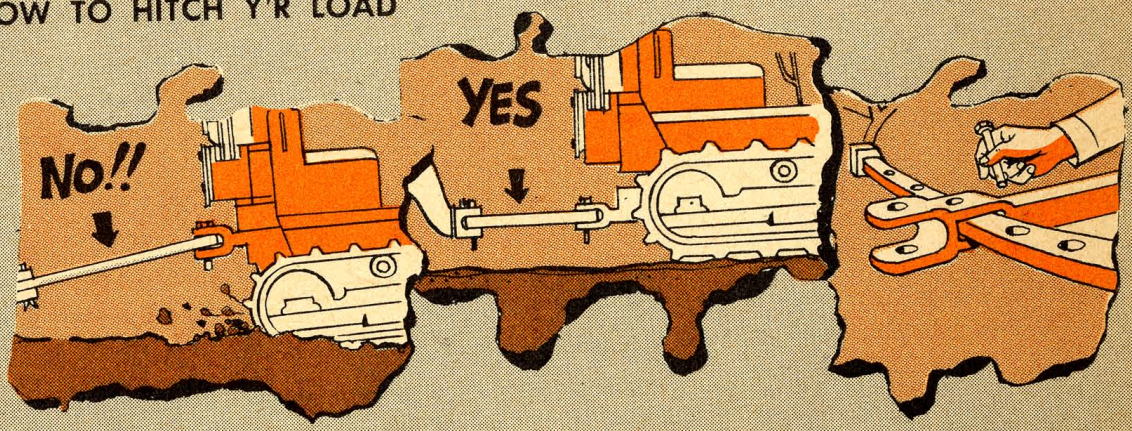


## HOW TO GET




## HOW TO HITCH Y'R LOAD

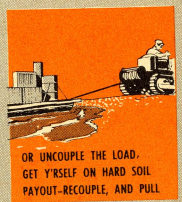


# TRACKS IN THE MUD

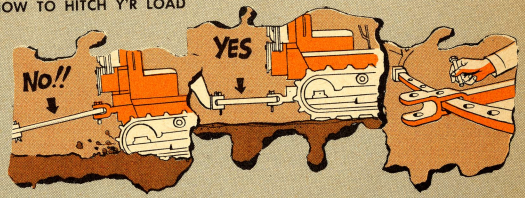
## A FEW TRICKS TO AVOID

## WHEN WORKING

## HOW TO GET



## HOW TO HITCH Y'R LOAD

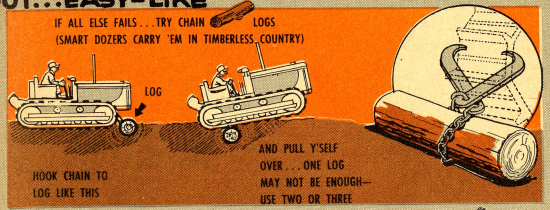





## MUCK 'N FUSS!!

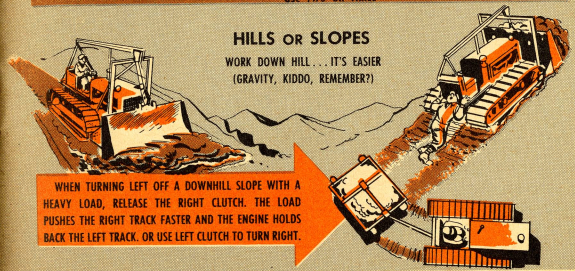
## STRANGE COUNTRY

## OUT . . . EASY-LIKE



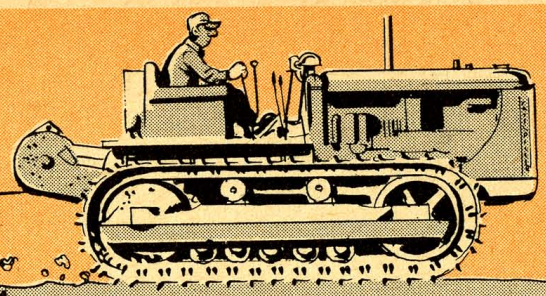

## HILLS OR SLOPES

WORK DOWN HILL . . . IT'S EASIER (GRAVITY, KIDDO, REMEMBER?)



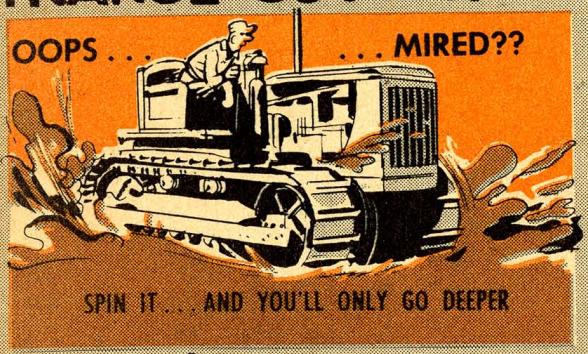
WHEN TURNING LEFT OFF A DOWNHILL SLOPE WITH A HEAVY LOAD, RELEASE THE RIGHT CLUTCH. THE LOAD PUSHES THE RIGHT TRACK FASTER AND THE ENGINE HOLDS BACK THE LEFT TRACK. OR USE LEFT CLUTCH TO TURN RIGHT.

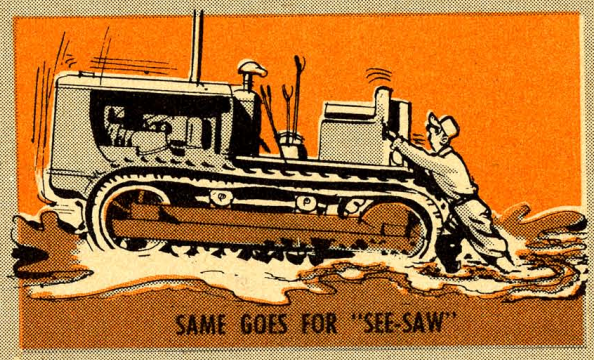
# THE MUD



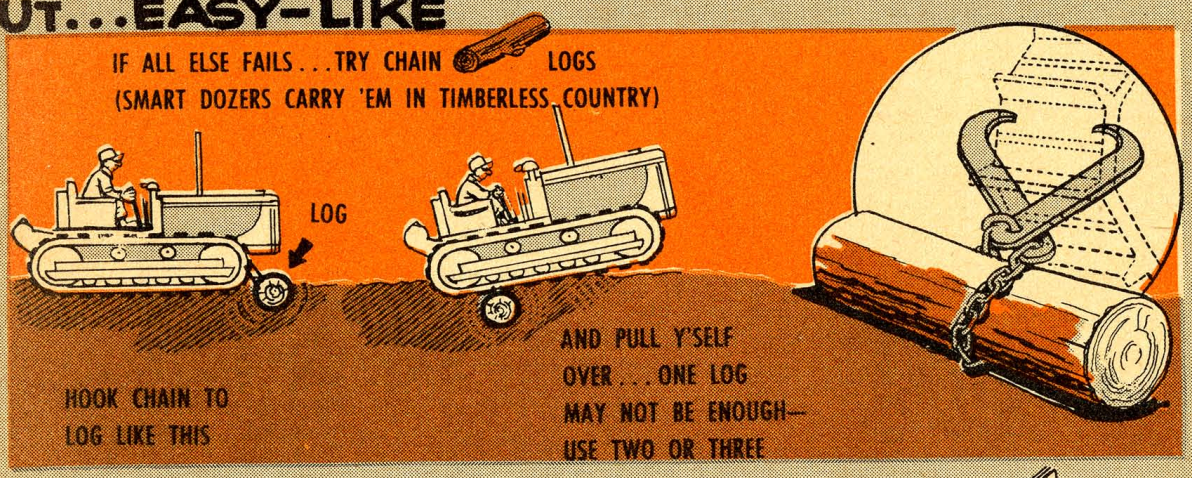
## MUCK 'N FUSS!!

## STRANGE COUNTRY




## OUT . . . EASY-LIKE




## HILLS OR SLOPES

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(GRAVITY, KIDDO, REMEMBER?)

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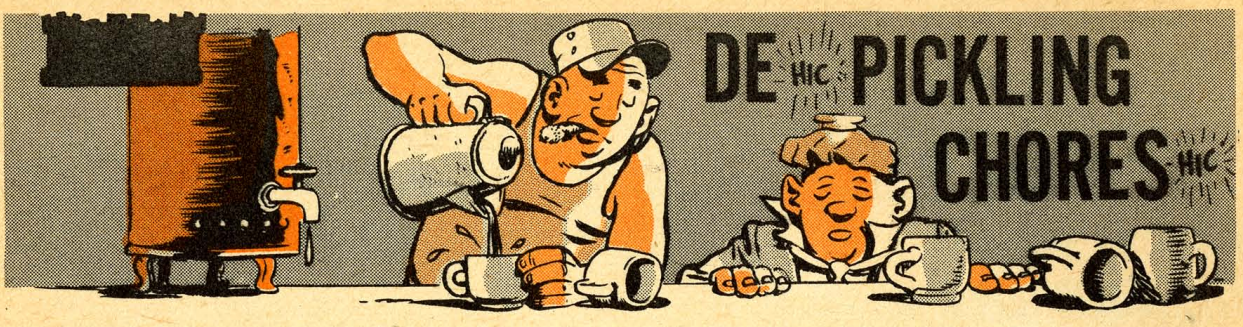
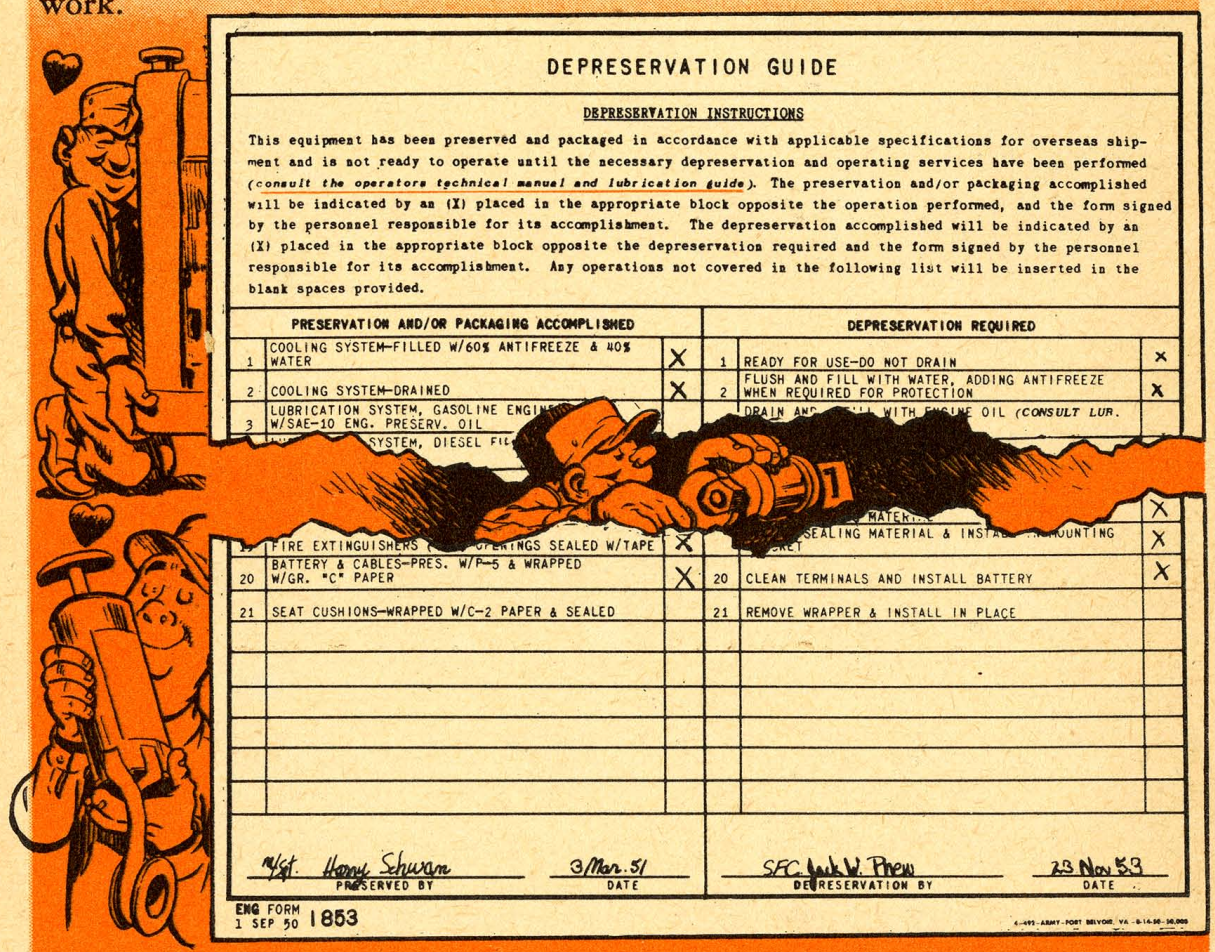



Your first duty to equipment that comes to you from your Engineer supply depot is a serious session with Eng Form 1853—the form that gives a complete run down on the preservation care the equipment's had, and what **must** be done in the way of pulling off the wraps and servicing, before the equipment's put to work.



DEPRESERVATION GUIDE

DEPRESERVATION INSTRUCTIONS

This equipment has been preserved and packaged in accordance with applicable specifications for overseas shipment and is not ready to operate until the necessary depreservation and operating services have been performed (*consult the operators technical manual and lubrication guide*). The preservation and/or packaging accomplished will be indicated by an (X) placed in the appropriate block opposite the operation performed, and the form signed by the personnel responsible for its accomplishment. The depreservation accomplished will be indicated by an (X) placed in the appropriate block opposite the depreservation required and the form signed by the personnel responsible for its accomplishment. Any operations not covered in the following list will be inserted in the blank spaces provided.

| | PRESERVATION AND/OR PACKAGING ACCOMPLISHED | | | DEPRESERVATION REQUIRED | |
|---|---|---|---|---|---|
| 1 | COOLING SYSTEM—FILLED W/60% ANTIFREEZE & 40% WATER | X | 1 | READY FOR USE—DO NOT DRAIN | X |
| 2 | COOLING SYSTEM—DRAINED | X | 2 | FLUSH AND FILL WITH WATER, ADDING ANTIFREEZE WHEN REQUIRED FOR PROTECTION | X |
| 3 | LUBRICATION SYSTEM, GASOLINE ENGINE W/SAE-10 ENG. PRESERV. OIL | | | DRAIN AND FILL WITH ENGINE OIL (*CONSULT LUB.* | |
| | SYSTEM, DIESEL FIE | | | | |
| | | | | MATER | X |
| | FIRE EXTINGUISHERS ( ERINGS SEALED W/TAPE | X | | SEALING MATERIAL & INSTA MOUNTING | X |
| 20 | BATTERY & CABLES—PRES. W/P-5 & WRAPPED W/GR. "C" PAPER | X | 20 | CLEAN TERMINALS AND INSTALL BATTERY | X |
| 21 | SEAT CUSHIONS—WRAPPED W/C-2 PAPER & SEALED | | 21 | REMOVE WRAPPER & INSTALL IN PLACE | |

M/Sgt. Henry Schwan — PRESERVED BY — 3/Mar. 51 — DATE

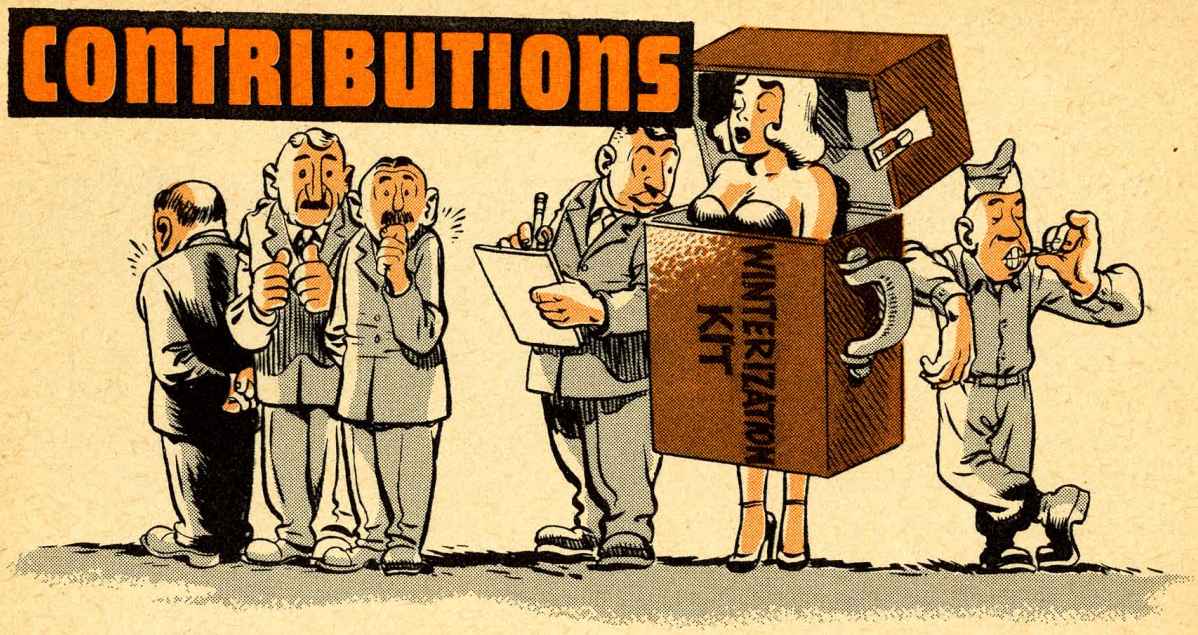
SFC Jack W. Phew — DEPRESERVATION BY — 23 Nov 53 — DATE

ENG FORM 1 SEP 50 1853

You'll find Form 1853 in a waterproof container marked "Depreservation Guide", attached to some easy-to-spot location on the equipment. And you won't need a second look to tell you why the chores listed must be done with tender love 'n care, if your equipment's to have the right start in life.

Lack of proper depreservation buys you both immediate troubles and premature failure of parts, assemblies and maybe even the entire item.

# CONTRIBUTIONS




## IT'S THE NUTS

Dear Editor,

Those eight wing-nuts on the M38A1's battery cover could send a good set of batteries off the deep end. Besides everything else, a couple of wing-nuts are so close to the windshield mount that they scrape your knuckles as well as your patience. Here's a home-made gimmick to solve the problem (Fig 1).

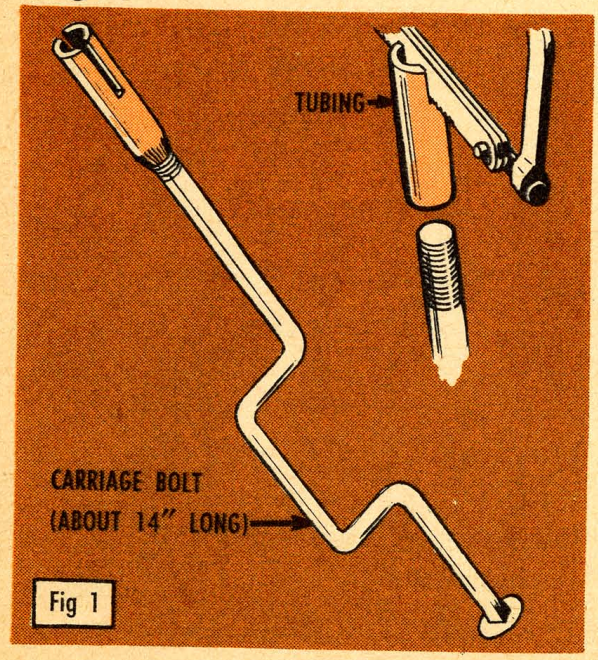



Fig 1

Take an old carriage bolt and a piece of tubing and weld the tube onto the bolt's threaded end. Then, with three hacksaw blades set together in a frame, slice a slot across the tube's open end. Now heat the bolt in several places and bend it into a speedwrench. But not a deep one, because the job doesn't need much leverage. Voila! It's in the bag.

The tool should be about 14 inches long. That's short enough to fit in the vehicle's tool box and long enough not to bang against the windshield.

**WOJG Robert B. Carson**
**North Hollywood, California**

*(Ed Note—The latest 'A1's are coming out with an overcenter catch on the battery-box cover instead of wing-nuts. For those with the nuts, a special tool like yours may be OK for an outfit that's got lots of Jeeps, but it'll clutter up a driver's tool box. A few extra seconds time and care may be the answer.)*

## SHIFTING TROUBLE CURE

Dear Editor,

We've been having some driver training mishaps on the M42 (T141). One of our biggest troubles is in shifting.

Here's what happens: The driver puts gear selector in LOW and proceeds up to about 10 or 11-MPH. Then he reaches down to shift to HIGH. Instead of moving the selector straight back, he pulls it in a little toward his right leg and then back into reverse. Which, of course, switches his direction in a hurry.

This is hazardous to crew members who are slung off the vehicle, and in one case proved disastrous to a car which was pan-caked behind the M42. It'll also bust up the power train and suspension system.

Inclosed are sketches of a device which we believe can stop most of this trouble on the M42. It can also be used on the M41 Bulldog tank.

It can be made from anything as simple as a hinge-hasp or tee-hinge, attached to the side of the range-selector box (Fig 2). The face of the hinge, which fits across the top of the box, should be shaped so as to cover just the entrance to the reverse slot (Fig 2). It'll let the lever move freely between HIGH and LOW, but must be flipped to the side position (Fig 3) before a shift to reverse can be made. Makes it almost impossible to shift to reverse by mistake.

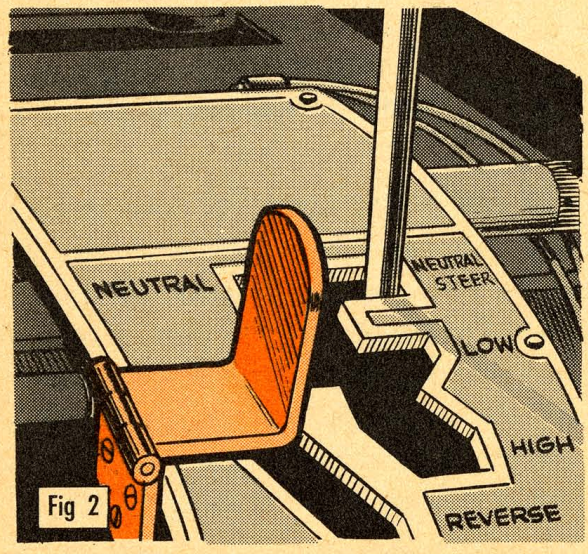


Fig 2

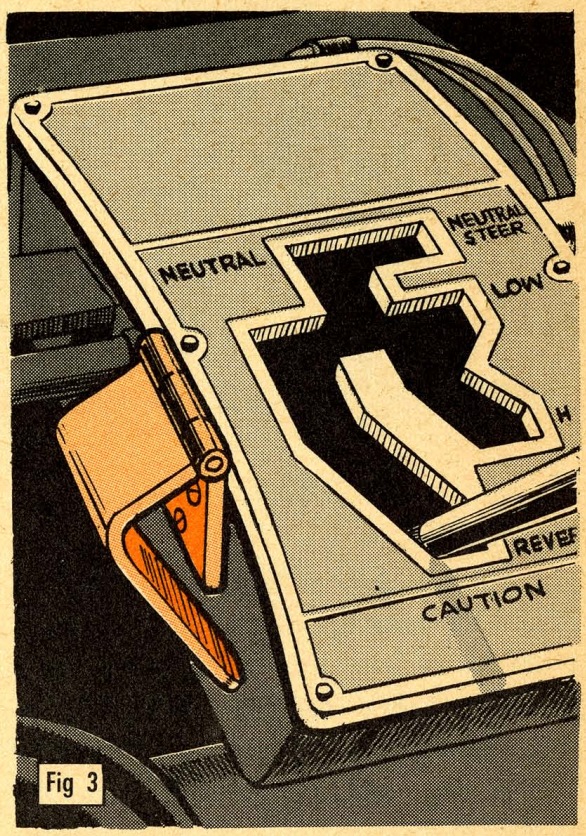


Fig 3

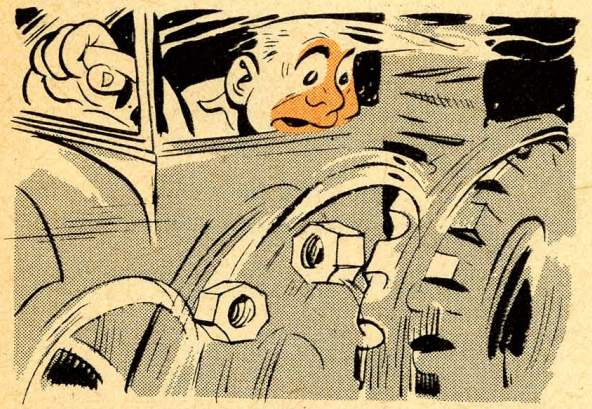
**CWO J. E. Trammell**
**Ft Bliss, Texas**

*(Ed Note—Anything that'll get that shaft in the right slot is OK. Looks like you've a good idea for trainees, who may tend to be a little excitable. Sorta doubt that if you've really got the feel of the controls that you'll mistakenly pull that lever 90° in the wrong direction against the drag of an 8-lb spring.)*

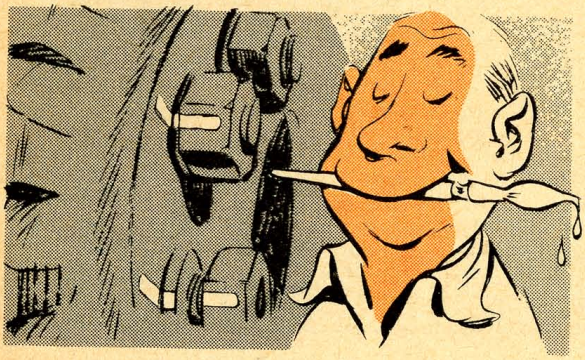
## LINE-UP

Dear Editor,

I had an inspection last week on my 2-1/2-ton, 6x6, truck, and was asked if the wheel stud-nuts were tight. Since I couldn't tell right then and there, the inspector reminded me that I could lose a wheel if they're loose.



I decided to paint a white mark down the side of each stud and onto the nut. This way when you look at them and see the lines on the stud and nut don't meet, you'll know the studs are coming loose. Of course, they must be tight before you paint them.



The same idea can be used on other types of trucks, and on any bolts where tightness is 'specially important. Like the 1-inch bolts that hold the boom shipper to the mast on the M62 wrecker.

**PFC L. H. Pugel**
**Ft Sill, Oklahoma**

*(Ed Note—It's a swell idea. But remember, bolts stretch. You'll have to take off the old and put on new marks every time you tighten 'em up. Also better note those shipper bolts regularly . . . 'specially at the end of the first day's operations after tightening them.)*

## SHOP-VAN LADDER

Dear Editor,

Hopping up into the rear of the M109 or M220 shop van, instead of hooking up the access ladder and using it, is not so smart. Because after you're in the van, nine times out of ten, you'll open that little door on the left for more light or air, and then you've got a repair job.

Couple fellas here opened it, with the ladder still attached. They thought the door was stuck, so they kept pushing until they tore off the carrying straps at the top of the ladder and the toggle locks at the bottom (Fig 4).

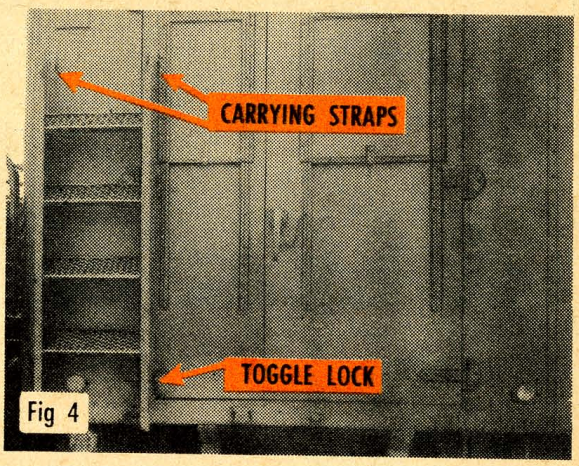


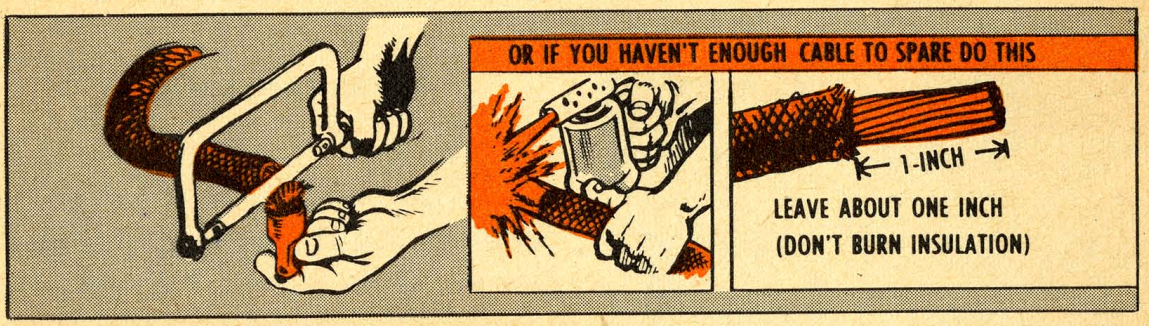
Fig 4

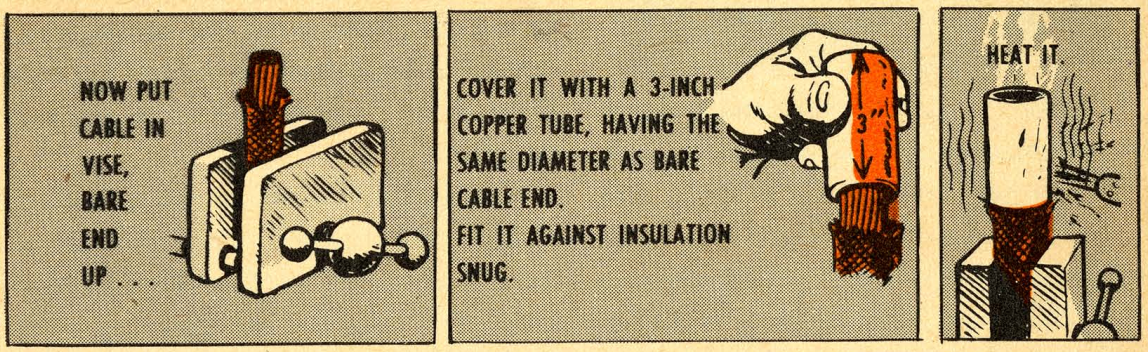
Here's a time when you've got to take a step to save a step.

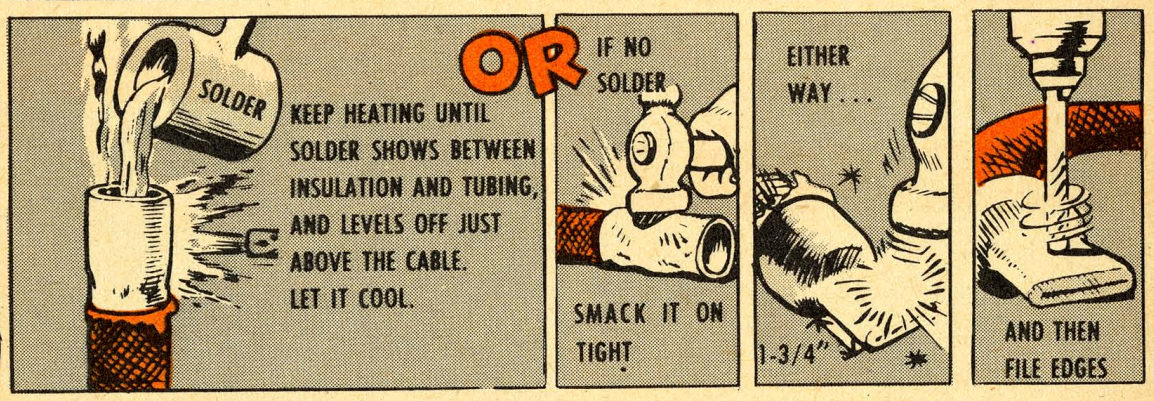
**Mr. L. Harper**
**Aberdeen Proving Ground, Maryland**

# HAPPY ENDING

Dear Editor, When we don't have an extra battery cable and a cable's end-lug breaks... we often have to make a new one... HERE'S HOW...



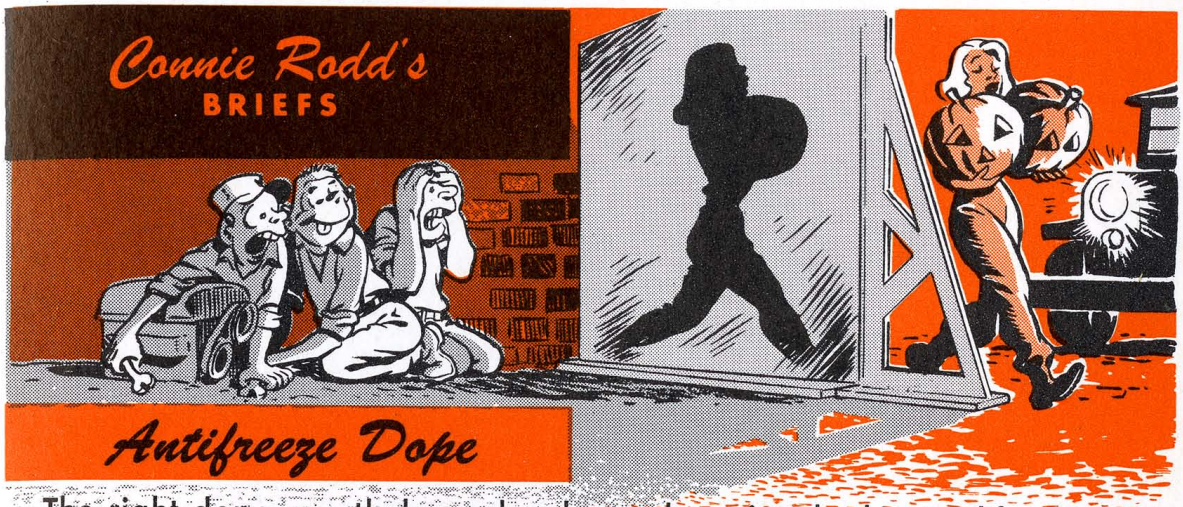




CPL J. H. MacKINNELL
Ft Hamilton, N.Y.

(ED NOTE . . . A GOOD IDEA . . . IF YOU'RE IN THE BACK WOODS OR IN THE THICK OF THINGS AND CAN'T GET THE PART YOU NEED WHEN YOU NEED IT.)

# Connie Rodd's BRIEFS



## Antifreeze Dope

The right dope on ethylene-glycol antifreeze mixtures for your vehicle's cooling system is outlined in TM 9-2855, TM 9-850 and SB 9-4. What's said in TM 9-804, page 190, and TM 9-837, page 258, will have some changes. Use 2-3/4 pints for each gallon of cooling system capacity and you'll be OK down to 0° F.

## 5-ton governors

In case you haven't heard, you now set the engine governors of your 5-ton M-series trucks at 2400-RPM. Message DA-468831 gives the low down on this.

## Drain away

Water getting in the air-hydraulic system can cause the craziest things to happen to your brakes—'specially when you need 'em. Just drain your air reservoirs after operation every day and also weekly to help 'em get rid of their water.

## There is one

How did that get in there? In spite of what PS #16, page 746, says there **is** a track-tension checking tool for M24 light tanks. It's Ord Stock No. 41-T-3081-77.

## Sandy sealed-lips

Try to keep your Jeep's lifetime-lubricated drive-shaft U-joint out of sand. Once sand bites through its double-lip seal, it'll have a short life. If you must hit the grit, go easy—then wipe it clean often. To get the full details see Chapter 3, Section II of TM 9-804 and TM 9-804A.

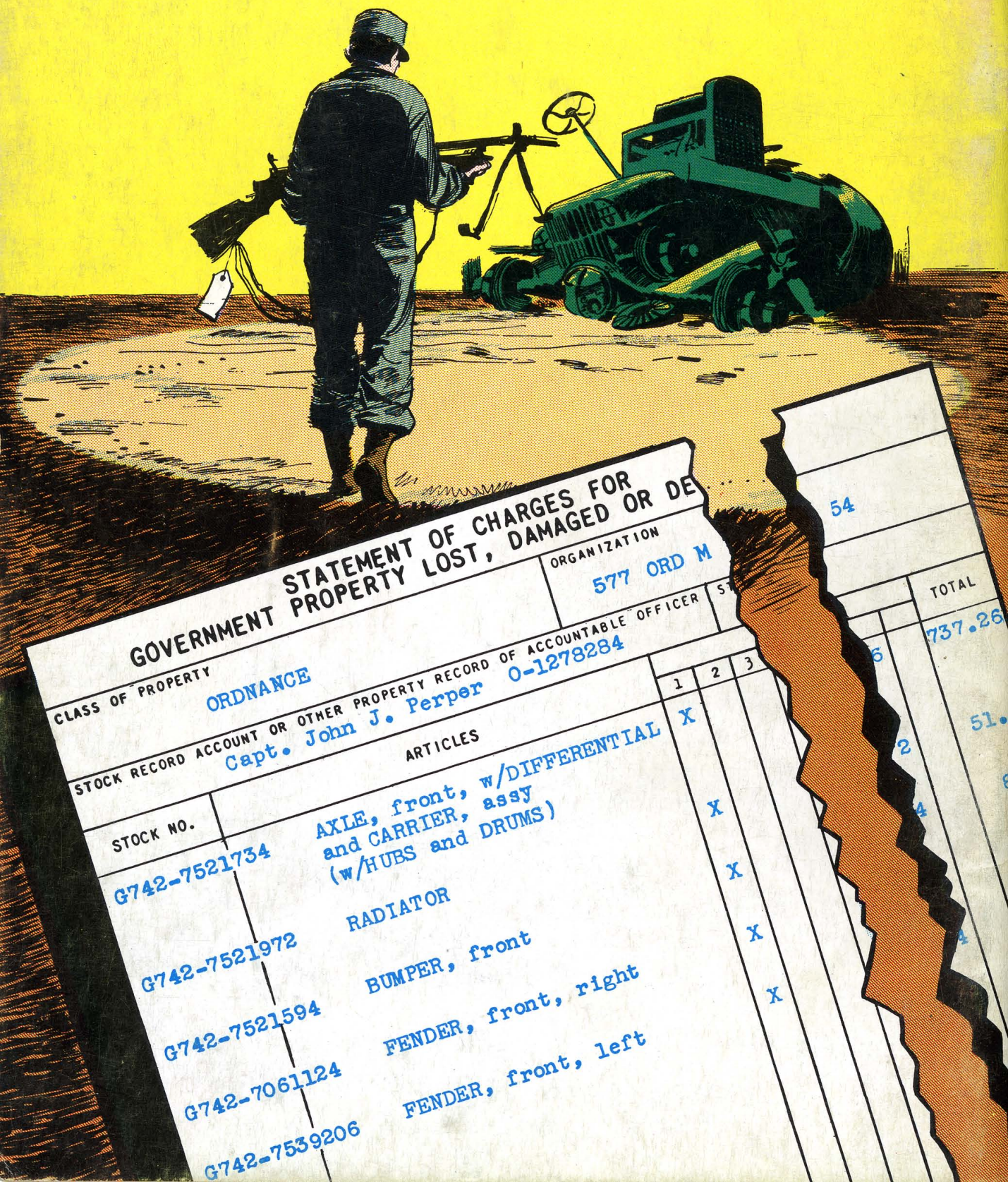
## Keep your power dry

Another use for that sealing kit (Ord Stock No. 52-C-3259-50) PS told you about in PS #21, page 970, is to waterproof your electrical boxes. A TB will be out soon to tell you about it. Without the stuff, water could splatter your power line and konk you out of business.

## Prop-shaft U-joints

Those bolts in your truck's propeller-shaft universal-joint flanges work loose. Now and then one shears off and leaves the driver afoot. Please to check yours.

# ...Need we say more??



GOVERNMENT PROPERTY LOST, DAMAGED OR DE

STATEMENT OF CHARGES FOR

CLASS OF PROPERTY: ORDNANCE

ORGANIZATION: 577 ORD M

STOCK RECORD ACCOUNT OR OTHER PROPERTY RECORD OF ACCOUNTABLE OFFICER: Capt. John J. Perper O-1278284

| STOCK NO. | ARTICLES | 1 | 2 | 3 |
|---|---|---|---|---|
| G742-7521734 | AXLE, front, w/DIFFERENTIAL and CARRIER, assy (w/HUBS and DRUMS) | X | | |
| G742-7521972 | RADIATOR | | X | |
| G742-7521594 | BUMPER, front | | X | |
| G742-7061124 | FENDER, front, right | | | X |
| G742-7539206 | FENDER, front, left | | | X |

54

TOTAL

737.26

51.